

ANNUAL REPORT
OF THE
Department of Lands and Mines
OF THE
PROVINCE OF ALBERTA
FOR THE
Fiscal Year Ended March 31st
1940

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY



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*To the Honourable J. C. Bowen,
Lieutenant-Governor of the Province of Alberta.*

SIR:

I have the honour to submit the report of the Department of Lands and Mines for the fiscal year ended March 31st, 1940.

I have the honour to be, Sir,

Your obedient servant,

N. E. TANNER,

Minister of Lands and Mines.

Edmonton, December 13th, 1940.

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GOVERNMENT OF ALBERTA
DEPARTMENT OF LANDS AND MINES

Resulting from the transfer on October 1st, 1930, of Alberta's natural resources from federal to provincial control, the Department of Lands and Mines was on this date brought into being by the Alberta Government. The general purpose of the new Department was to be one of supervision and management of the resources in question.

Ministers of the Department, responsible at different periods for this administration, appear as follows:

Hon. R. G. Reid, appointed October 2nd, 1930,
Hon. Hugh W. Allen, appointed July 10th, 1934,
Hon. Charles C. Ross, appointed September 3rd, 1935,
Hon. N. E. Tanner, appointed January 5th, 1937.

CHIEF OFFICERS
DEPARTMENT OF LANDS AND MINES
March 31st, 1940

Honourable N. E. Tanner*Minister of Lands and Mines*
John Harvie*Deputy Minister of Lands and Mines*
T. C. Rankine*Departmental Solicitor*
J. W. Stafford*Director of Lands*
M. Gossip*Agent, Calgary Land Agency*
R. Cruickshank*Agent, Lethbridge Land Agency*
J. J. E. Clarke*Agent, Peace River Land Agency*
T. F. Blefgen*Director of Forestry*
E. S. Huestis*Acting Assistant Director of Forestry*
F. W. Neilson*Chief Timber Inspector*
J. W. Hamilton*Superintendent of Mining Lands*
A. A. Millar*Chief Inspector, The Coal-mines Regulation Act*
T. W. Dalkin*Superintendent of the Technical Division*
J. W. Patrick*Acting Accountant*
J. L. Irwin*Statistician*

SPECIAL AREAS BOARD

Head Office: Hanna, Alberta

A. C. McCully*Chairman*
D. M. Graham*Secretary*
G. R. Armstrong*Member*

Special District Agents: Hanna, D. M. Graham; Oyen, R. B. Langley; Consort,
D. J. Wilson; Medicine Hat, W. C. Elliott; Lomond, J. P. Rorabeck.

THE PETROLEUM AND NATURAL GAS CONSERVATION BOARD

Head Office: Calgary

Robt. E. Allen*Chairman*
F. G. Cottle*Member*
J. J. Frawley*Member*

REPORT

OF THE

Department of Lands and Mines,

1939-40

*Honourable N. E. Tanner,
Minister of Lands and Mines,
Edmonton.*

SIR:

I have the honour to submit the tenth Annual Report of the Department of Lands and Mines for the fiscal year ended March 31st, 1940. With the coming of this year, the first decade of the Department's life is reached.

A far graver significance, however, is attached to this period now under review. With Canada's second declaration of war on Germany, proclaimed on Sunday, September 10th, 1939, a tragic entry is made in the pages of Alberta's and Canada's history and in the history of the entire world.

The coming of the second world war, following the first by only a quarter of a century of time, leaves in its wake an ominous note of warning. It is a warning of dark days now here, of darker ones to follow; of crisis, racial and economic, on a world-wide scale; of extinction, the penalty for defeat, and victory, the only possible solution.

Such a warning is as much applicable to Alberta as it is to every other land where civilization is fighting for its existence. As far as this province is concerned, there is a real opportunity to help, for Alberta possesses great and valuable natural resources. By their increased development, invaluable assistance may be offered to the Empire throughout this period of international crisis. It is pointed out in this connection that during the year under review, increased production of these resources was established. Without a doubt these increases will be continued.

Alberta's oil production showed another record for 1939 and as a result helped to offset the question of an adverse exchange, so noticeable in the purchase of a foreign product during wartime.

Shortly after the close of the fiscal year, applications for licensed timber berths perceptibly increased with the growing demand for lumber needed for war activities.

The reconstruction of the salt plant of Industrials, Ltd. at Waterways during the year prevented an increase being shown in salt production. With its completion in the spring of 1940, however, activities were carried out on a much greater scale promising a large increase for 1940.

Another plant completion in this area was that of the Abasand Oils, Ltd., which took place just after the close of the fiscal year. It is hoped that the successful processing of the McMurray bituminous sands may now be effected and that the production of asphalt for road building and recoveries of oil products from this source may be added to Alberta's development programme of her natural resources.

Waiting in the background are the great gypsum deposits of northern and north-western Alberta, the development of which may perhaps be hastened as a result of the definite changes which now must inevitably come to the economic life of this province.

Efforts for the greater distribution of Alberta coal to eastern Canada are being and will continue to be made. Following the close of the year greater activity in tile and clay production resulted in increased pottery and glass manufacture. Increase in the manufacture of bricks was also evidenced.

With the declaration of war it was of course to be expected that depletions of the departmental staff, enlistments for active service, would start immediately and continue from time to time.

Civil servants joining the different branches of the active service forces were given indefinite leave till the end of the war, their respective positions in the Department being available to them on their return. Arrangements were made also for the continuance of superannuation during their absence so that the benefits of pensions on retirement would in no way become impaired.

The drain on the Department's experienced personnel is of course a definite handicap to the continuance of efficiency. It is, however, one of the many and unavoidable prices which governments and commercial institutions must pay at such a time as this. The training of new material in as short a time as possible to fill the vacant ranks, and to carry on, is the only solution that is offered.

In the first year of the war 22 of the Department's personnel have left for active service. Of this number, 2 were departmental officials—Mr. J. A. Hutchison, Assistant Director of Forestry, and Mr. I. N. McKinnon, Accountant.

The list is as follows:—

<i>Name</i>	<i>Date of Enlistment</i>	<i>Branch of Service</i>
Alexander, J. P.	November 25, 1939	Royal Canadian Air Force
Arcand, Romeo	July 1st, 1940	Royal Canadian Air Force
Barnard, E. D.	September 20, 1939	Royal Canadian Signallers
Baxter, R. D.	November 13, 1939	8th Field Ambulance R.C.A.M.C.
Bowen, R. L.	June 25, 1940	Calgary Highlanders
Browne, O.	October 25, 1939	Edmonton Regiment
Craig, Ace	May 6, 1940	Royal Canadian Navy
Dalphon, M.	June 22, 1940	Royal Canadian Air Force
Hutchison, J. A.	October 27, 1939	Royal Canadian Air Force
Keats, F. V.	April 22, 1940	Royal Canadian Air Force
Krause, R. F.	September 18, 1939	61st Battery, R.C.A.
Lavoie, A. J.	June 1, 1940	South Alberta Regiment
Longson, Burgess	July 29, 1940	4th Petrol, R.C.A.S.C.
Marr, F. B.	September 22, 1940	Royal Canadian Navy
McCardell, W. H.	March 13, 1940	Royal Canadian Air Force
McKinnon, I. N.	May 2, 1940	Royal Canadian Air Force
Newsome, R.	September 21, 1940	Royal Canadian Navy
Peart, A.	September 2, 1939	Edmonton Regiment
Shaver, E. P.	February 1, 1940	Royal Canadian Navy
Shillabeer, W. E.	October 31, 1939	Royal Canadian Navy
Walker, D. R.	August 15, 1940	Royal Canadian Air Force
Young, D. J.	September 7, 1940	Royal Canadian Air Force

In last year's Annual Report reference was made to the discontinuance of granting rights for the purpose of securing first homesteads, second homesteads or soldier grants. This regulation became effective on March 24th, 1939.

From the date of the transfer of Alberta's natural resources from federal to provincial control, October 1st, 1930, which coincided with the date on which the Department of Lands and Mines was created, the granting of entries for first and second homesteads and soldier grants throughout the province totalled 24,074 by the close of the fiscal year 1938-39. This total number represented an area total of approximately 3,851,840 acres. Details surrounding these entries granted, their classification, annual totals and districts in which they were made, are given in the Deputy Minister's and Accounting Division's section of the Department's previous Annual Reports. From the fiscal year 1930-31 to 1934-35,

inclusive, detailed information relative to the granting of these entries is also given in the Annual Reports of the various provincial land agencies.

The issue of these free grants of land, known for so long to residents of Alberta and the west as homesteads, has been carried out for a period of over 50 years. The idea in the beginning, throughout the latter part of the last century and the earlier part of the present, was that the system should principally represent a factor for the encouragement of immigration.

It had its virtues and its drawbacks. The virtues were represented by a large number of settlers, in spite of pioneering discouragements, becoming permanently established, by the opening up and developing of the province, and by economic benefits resulting from the needs and demands of an increased population. The drawbacks were demonstrated by injudicious choice of quarter-sections, which were either unsuitable for agriculture or were situated too far from the railway, by lack of capital at the start to offset the prospect of permanent settlement and by other adverse features embodying land speculation, cancellations through failure to meet taxes and other conditions which proved detrimental to both the settler and to the government.

With the falling off of immigration in recent years, accompanied by the resultant diminishing in annual totals of homestead entries granted, it became apparent that the day of the homestead was over. It had served its purpose and it was apparent that a new system must take its place. This has now been arranged.

On July 25th, 1939 regulations became effective which provided for the issue of agricultural leases on vacant provincial lands within certain defined areas of the province. The leases are granted for 20 year periods with the lessee being given an option for the purchase of the land so leased after 10 years' residence and operation of same, providing that compliance has been made with the regulations covering the terms of the lease.

Purchase price of the land is based on its valuation when taken over by the lessee before improvements have been started. This innovation now stands as the present day counterpart of the homestead in this province.

A fee of \$5.00 is charged the applicant to whom the lease is to be granted and annual payments for same are to be made to the Government on a crop share basis. In an area not exceeding 160 acres, where the land described in the lease is of such a nature that it may be made fit for putting into crop at a cost not greater than \$6.00 per acre, the areas to be broken shall be 5 acres in the first year, 10 in the second and third, 15 in the fourth and fifth and 25 in the sixth. Where the land described, by reason of brush, timber, etc., shall represent a greater cost than \$6.00 per acre for breaking the area to be cultivated may be reduced accordingly. Taxes on the area taken over, the pitfall of so many homesteaders in so many years of the past, are to be paid by the Alberta Government. A condition of the regulations is that at least 50 per cent of the area applied for shall be declared by the Department's soil survey engineers as being suitable for purposes of agriculture.

The new method of settlement, as briefly outlined above, now replaces the old. It fills the requirements of present day conditions as the homestead method could not be expected to do. It also ensures a protective measure in its general supervision of the settler; that is to say, insistence on the all important factor that land chosen for settlement shall be suitable enough to create a reasonable expectancy for successful and permanent occupation, and removal of the old dangers of the pioneer, with little more than his entry fee for capital, being exposed to disaster in an isolated district. To this much-needed improvement is added a more definite promise for the permanence, stability and prosperity of

agricultural activity in Alberta, which in turn must react favourably on the economic life of the province.

As an adjunct to the new agricultural leases, introduced to replace homesteads, brief mention should be made also of cultivation leases, cultivation permits and grazing leases and permits.

Cultivation leases, like agricultural leases, carry a fee of \$5.00, which is charged to the applicant to whom the grant has been made. Cultivation leases may be granted on either provincial or school lands. The area of such a lease is limited to 320 acres, and the lessee has the option of residence on the land, one-third of which, as vouched for in a department inspector's report, must be suitable for cultivation.

A cultivation lease is granted for a ten year period, at the conclusion of which time it may be subject to a further lease term for a similar period. Unlike the agricultural lease, however, no option for purchase may be secured.

Annual rent for the lease, including taxes, shall be $6\frac{1}{4}c$ per acre on portions of same uncultivated, and on a crop share basis with the Government on acreage cultivated. On an area not exceeding 160 acres, applicant must break and crop 5 acres in the first year, 10 in the second and third and 15 in the fourth and fifth. Should the land be covered by brush, timber or other obstacles a postponement of the first year's acreage development may be made to the second year, the second year to the third and so on until the end of the sixth year.

An order in council, dated October 31st, 1939, authorized the issue of yearly permits to cultivate certain lands which have previously been under cultivation.

The issue of such permits applies to those lands in the south-eastern part of the province, which have been withdrawn from the provisions of the ten year leases, already described, and also to such other lands in the province, which have previously been cultivated, but which are not available for the ten year lease, due to the fact that one-third of the area embraced within a quarter section is not suitable for cultivation. Annual cultivation rentals for such permits are at the rate of \$1.00 per acre. No fee is required from the applicant.

With the expansion of a settler's agricultural activities, additional land for the accommodation of stock may become necessary. In this connection, and in connection also with stock-raising on a large area as a self sustaining business, grazing permits and leases are available both to settlers and stockmen.

Grazing permits, arranged principally as an accommodation for settlers, may be secured on an annual basis, a fee of \$1.00 being charged on application for same. Annual rental is charged at a maximum rate of 4c per acre, which is inclusive of taxes.

Grazing leases, up to a period of 20 years, and subject to renewal periods in compliance with conditions then enforced, require an application fee of \$5.00.

Annual rentals for grazing leases are the same as for grazing permits, that is to say, a maximum of 4c per acre, including taxes. No limit is made to the size of area to be leased but the granting of same is subject to a department inspector's report stating that the area applied for is more suitable for grazing than for any other purpose.

Information relative to homestead patents granted over a period of approximately 60 years, secured through the courtesy of Mr. R. A. Gibson, Director, Lands, Parks and Forests Branch of the Department of Mines and Resources, Ottawa, is of historical interest to this Department and to the Government of Alberta. It is reproduced as follows:—

"The first homestead patent was issued to La Corporation des Reverends Peres Oblats de Marie Immaculee des Territoires du Nord Ouest on the 26th February, 1884 in the Provisional District of Alberta.

The first homestead patent issued in the Province of Alberta was to George Scheer on the 5th September, 1905.

Acres patented from 1st July, 1883, to 31st August, 1905 in the Provisional District of Alberta (Homesteads):

Surface only	1,457,115 acres
Surface & Underrights	136,649
Surface & Underrights except Coal	958
	<hr/> 1,594,722 acres

Taken at an average of 160 acres for the homestead there would be 9,967 homesteads.

Acres patented in the Province of Alberta from 1st September, 1905 to 1st October, 1930:

Surface only	15,298,617
Surface & Underrights	3,007
	<hr/> 15,301,624 acres

Taken at an average of 160 acres for the homestead there would be 95,635 homesteads."

By adding similar information, covering the period from the transfer of Alberta's natural resources to provincial control to the period when the practice of granting homesteads ceased to exist, the picture of homestead settlement in this province is completed. The following table is given, therefore, for purposes of illustration.

PROVINCE OF ALBERTA
Area—163,382,400 Acres
255,285 Square Miles

HOMESTEAD PATENTS GRANTED

<i>Period</i>	<i>Number</i>	<i>Acres</i>	<i>Area Square Miles</i>
From the date, shortly after Confederation, when the practice of granting homesteads for purposes of settlement was instituted by the Government of Canada to September 1st, 1905, when Alberta ceased to be a provisional district of the Northwest Territories and became established as a province	9,967	1,594,722*	2,492*
From September 1st, 1905 to October 1st, 1930, when the natural resources of Alberta were transferred from dominion to provincial control	95,635	15,301,624*	23,909*
From October 1st, 1930 to March 31st, 1940 (granting of homesteads was discontinued on March 24th, 1939)	14,700	2,388,092	3,731
Totals	120,302	19,284,438*	30,132*

The above totals do not include soldier grants or other forms of free grants, made from time to time over this period, but deal only with first and second homesteads, the latter becoming effective just prior to the transfer of the resources. The area covered by homesteads, for which patents have been granted over the above 60 year period, represents 11.80 per cent of the province's total area.

*Approximate.

PUBLICATIONS

Three publications were prepared and distributed during the year under review, in addition to the usual departmental Annual Report, the Annual Report of The Mines Branch in relationship to coal operations, magazine and newspaper articles dealing with the province's natural resources development, and statistical data, miscellaneous reports and maps. These were entitled "The History of Alberta Oils", "Supplement to Schedule of Wells drilled for Oil and Gas", and "Alberta's Minerals."

"The History of Alberta Oil", published on March 15th, 1940, represents a more complete annual review of Alberta's oil development than any previously published.

For some time the need had been felt for a departmental publication which, in addition to the usual annual data, would contain also a detailed history of the province's oil development throughout past years.

The book is divided into six chapters carrying the following titles:—"The History of Alberta's Oil and Gas Development"; "Alberta Oil Development in 1939"; "Bituminous Sands of Northern Alberta"; "British Oil Production in 1939"; "World Oil Production in 1939"; "Conclusion."

The chapter on bituminous sands is more or less a duplication of that section of "Alberta's Minerals" devoted to this subject but is included in this issue, nevertheless, as a result of its relationship to Alberta's oil development.

The history opens with the first observations dealing with the province's oil possibilities made by early explorers over a century and a half ago.

This is followed by the more prominent introduction of the subject made by Mr. George M. Dawson, Director of the Dominion Government Geological Survey, in 1878. From that date forward the various explorations, test drilling and discoveries of oil and gas evidenced at different times and over a wide-spread area of the province are described.

The book is illustrated throughout giving reproductions of earlier photographs to compare with pictures of present day equipment and methods. In it is included also many statements, graphs and maps bearing relationship to the subject matter presented.

About ten thousand copies of this book were distributed, through the kind co-operation of the Department of Education, to Alberta schools. Many thousands of copies were also sent out to all parts of Canada, the United States and overseas.

"Supplement to Schedule of Wells drilled for Oil and Gas", published at the beginning of 1940, represents a Supplement to the Report entitled "Schedule of Wells drilled for Oil and Gas", published last year and referred to in last year's Annual Report. The Supplement, presenting information dealing with the province's well-drilling, brings this detailed information covering operations carried out in past years up to the close of this one.

The Supplement contains data on oil, gas, geological markers, casings, water occurrences, etc. Included, as in the previous year, is a map of Turner Valley showing locations of individual wells.

"Alberta's Minerals" was first published on April 24th, 1939. It contained a brief review of the province's non-metallic minerals, giving estimates on potential reserves, localities, valuations, development and production totals to date. On April 2nd, 1940, a second edition of this pamphlet was published bringing statistical data up to the close of 1939.

DEPARTMENT'S REVENUE AND PRODUCTION, 1939-40

Another record was established when the departmental revenue for the fiscal year under review, excluding revenue from the Special Areas, reached a total of \$1,944,098.82, which shows an increase over the previous year of \$79,386.07. Expenditures totalled \$708,605.34, a decrease of \$1,019.26 from the year before. A surplus of \$1,235,493.48 on income account is therefore reported. An itemized statement, showing revenue increases and decreases, appears on the first page of the Accounting Division's section of this Report.

Petroleum production increased again by 1,387,958 barrels with a total of 8,039,279 barrels for the year. Gas consumption differed very little from the previous year showing a decrease of 1,486,411 Mcf.

Coal production, due to a greater railway demand and additional shipments of domestic Alberta coal to Ontario, showed an increase for the calendar year 1939 of 288,080 tons. Increases are given also for the manufacture of coke and briquettes, the former 221 tons and the latter, 7,271 tons. Electrical power used in the operation of coal-mines increased by 2,964,006 k.w.hrs.

Shale mined during the calendar year 1939 reveals an increase of 7,307 tons. Bricks and tiles manufactured both show increases—the former by 585,371 (number) and the latter by 1,009 (tons). Increases are given also for the

following:—stone, 1,510 tons, sand and gravel, 60,920 tons and cement, 73,473 barrels.

A total of 2,097 land patents, covering an area of 301,431.972 acres, is reported for the fiscal year under review. As in previous years a chart showing annual totals of patents granted from October 1st, 1930, date of the natural resources transfer, is included in the Technical Division's section of this Report. The total area covered by these patents from the above date to March 31st, 1940 is 2,743,562.182 acres.

PROVINCIAL AND SCHOOL LANDS ADMINISTRATION

Reference has already been made to the discontinuance of granting the right to secure first and second homesteads and soldier grants which became effective on March 24th, 1939, and to the establishment of regulations governing the issue of 20 year agricultural leases as the present day equivalent of homesteads.

A number of applications for homestead entry carrying the usual 90 day option were on file just prior to this enactment. Of these entries, 25 were granted during the present fiscal year under review.

The addition of these 25 to the grand total shown in the previous Annual Report increases the figures in the annual comparative statement appearing therein, in connection with entries for homesteads and soldier grants, to 24,099. This figure represents the final grand total covering entries granted for first and second homesteads and soldier grants from October 1st, 1930—date of the formation of this Department and of the transfer of Alberta's natural resources to provincial control—to the year 1939, when the right to apply for such entries ceased to exist.

As stated in last year's Annual Report, the School Lands Division of this Department was amalgamated with the Provincial Lands Division on May 1st, 1938, the control of the two Divisions coming under the Director of Lands.

Additional information pertaining to those and other matters in relation to provincial and school lands administration is given in the Director of Lands' section of this Report.

FOREST SERVICE

Fire Season.—It will be noticed in the accompanying statement dealing with summary of annual fire losses, that the total loss for 1939—\$642,110.21—is a considerable drop from that of 1938—\$2,046,236.27.

As stated in last year's report, the 1938 total represented the greatest loss since the formation of this Department—definitely an anxious and critical year for the timber resources of the province.

The 1939 loss is the smallest recorded since 1935, a year in which conditions during that season were so extremely favourable that the annual fire destruction was cut down to a minimum of \$5,768.00, the smallest figure on record.

Suppression costs for the year under review, as shown in the statement, are also reduced—from \$217,055.49 to \$148,298.09.

In the general totals from 1930 to 1939, given in the summary, suppression costs show a total of \$738,202.55 and total losses by fire, \$6,762,723.84.

Timber Industry.—Operations in the province's timber industry were less in 1939 than in previous years. This is attributed to a falling off in the demand for Alberta spruce lumber in the latter part of 1938.

As stated earlier in this Report, the situation became very much changed following the close of the fiscal year under review, resulting from the demand for lumber to fill wartime requirements.

Grazing.—The carrying capacity of ranges in the forest reserves was raised in 1939 as a result of normal rainfall in the preceding year, which increased forage. Reduction in the number of stock grazed in 1938, necessitated by drought of previous years, also helped to improve the forage conditions for 1939. Sheep grazed on these ranges during the year under review increased in number by 2,092.

Forest Nursery and Tree Distribution.—A detailed review of operations at the Forestry Nursery at Oliver and those of subsidiary nurseries at other provincial points is dealt with in the Forestry section of this Report.

National Forestry Programme.—The Youth Forestry Training Project was supplanted in 1939 by the National Forestry Programme. A thorough training in the many phases of forestry work was given during the year by the Alberta Forest Service to 130 young men who were distributed throughout the province in camps and as trainee assistants to rangers.

MINING LANDS ADMINISTRATION

Information dealing with quantities and valuations of Alberta's non-metallic minerals produced during the year are given in the Report of the Mining Lands Division. To this is added details covering mineral rights, solid, liquid and gaseous, revenue from fees, rentals, bonuses and royalties, reservations of areas for geological examination and acquisition of varying forms of mineral leases.

Leases dealt with.—Totals of leases issued from October 1st, 1930—date of natural resources transfer—to March 31st, 1940 are shown as follows:—Leases active at date of transfer, 19,635; issued, 8,878; reinstated, 45; divided, 266; cancelled, 22,809; renewed, 256; active as at March 31st, 1940, 5,759. Areas covered by same are given in a separate statement.

Coal.—The table dealing with royalties on coal, produced in former years, is shown from the fiscal years 1907-8 to 1939-40, inclusive.

SUMMARY OF FIRE LOSSES WITHIN ALBERTA FOREST RESERVES

Period	Number of Fires	Cost of Suppression	Area (Acres)	Salvage Timber M.f.b.m.	Salvage Timber (Cords)	Unsalvage Timber M.f.b.m.	Unsalvage Timber (Cords)	Total Loss
October 1, 1930 to March 31, 1931.....	9	\$ 551.67	41,925					
April 1, 1931 to December 31, 1931.....	31	17,624.12	52,218.05	2,370.50	3,086	6,295.73	129.00	\$ 71.69
Calendar Year 1932.....	32	3,491.04	2,555.75	8.00	1,863	3,845.00	111,599.00	154,651.47
Calendar Year 1933.....	39	18,409.92	29,275.88	26.75	1,201	19,188.25	1,005.60	8,790.73
Calendar Year 1934.....	47	31,118.51	21,963.00	1,510.00	9,200	2,661.00	108,414.00	95,796.93
Calendar Year 1935.....	12	94.56	6.50				209,550.00	96,195.87
Calendar Year 1936.....	52	108,894.48	165,465.00	7,573.00	25	885,192.00	764,594.00	1,504,273.45
Calendar Year 1937.....	17	387.38	90.00			37,500.00	8.50	36,536.45
Calendar Year 1938.....	18	9,422.79	13,111.50	13,740.00	5	318.50	1.50	101,455.13
Calendar Year 1939.....	46	49,056.68	38,213.75	292.00	1,982	4,229.00	54,721.00	
TOTALS.....	303	\$239,051.15	322,941.355	25,520.25	31,362	959,431.48	1,250,082.60	\$1,998,129.27

SUMMARY OF FIRE LOSSES OUTSIDE ALBERTA FOREST RESERVES

October 1, 1930 to March 31, 1931.....	47	\$ 686.64	11,145.19	155.00				
April 1, 1931 to December 31, 1931.....	591	82,088.89	552,658.07	134,536.00	104,199.00	122,690.50	684,625.50	\$ 79,950.85
Calendar Year 1932.....	347	15,320.51	133,562.14	4,274.75	12,215.00	40,627.15	132,743.00	712,835.79
Calendar Year 1933.....	249	16,971.75	64,489.12	4,383.50	13,953.50	41,694.50	59,545.00	152,085.58
Calendar Year 1934.....	193	7,050.51	36,907.00	3,404.50	3,159.00	947.50	14,464.00	100,008.43
Calendar Year 1935.....	85	1,258.90	6,313.25	160.00	1,195.00	1,513.00	5,371.00	29,825.77
Calendar Year 1936.....	196	13,647.81	38,989.00	2,574.00	23,116.00	659.00	6,017.00	5,722.50
Calendar Year 1937.....	358	54,952.28	85,169.00	14,702.00	33,113.00	251,544.00	609,837.00	45,656.85
Calendar Year 1938.....	503	207,652.70	1,745,234.00	35,382.50	23,054.00	650,844.50	1,974,651.50	1,088,173.90
Calendar Year 1939.....	453	99,241.41	390,925.50	1,505.00	19,336.00	128,129.00	537,186.00	2,009,679.82
TOTALS.....	3,022	\$499,151.40	3,815,392.27	196,677.25	233,340.50	1,238,252.90	4,024,440.00	\$4,764,594.57

SUMMARY OF FIRE LOSSES WITHIN AND OUTSIDE ALBERTA FOREST RESERVES

October 1, 1930 to March 31, 1931.....	56	\$ 1,238.31	11,187.115	155.00				
April 1, 1931 to December 31, 1931.....	622	99,713.01	604,876.12	136,946.50	107,285.00	128,986.23	796,224.50	\$ 80,022.54
Calendar Year 1932.....	379	18,811.55	136,117.89	282.75	28,078.00	44,472.15	133,748.60	867,487.26
Calendar Year 1933.....	288	35,381.67	93,765.00	4,410.25	15,154.50	60,882.75	167,959.00	160,876.31
Calendar Year 1934.....	240	38,169.02	58,870.00	4,914.50	12,359.00	3,208.50	224,014.00	195,805.36
Calendar Year 1935.....	97	1,653.46	6,319.75	160.00	1,195.00	1,513.00	5,431.00	126,021.64
Calendar Year 1936.....	248	122,542.29	204,454.00	9,947.00	23,141.00	885,851.00	770,611.00	5,768.00
Calendar Year 1937.....	375	55,339.66	835,259.00	14,702.00	33,113.00	289,044.00	609,845.00	1,549,930.30
Calendar Year 1938.....	521	217,055.49	1,758,345.50	49,122.50	23,059.00	651,363.00	1,974,653.00	1,088,465.95
Calendar Year 1939.....	499	148,298.09	429,139.25	1,597.00	21,318.00	132,358.00	591,907.00	2,046,236.27
TOTALS.....	3,325	\$738,202.55	4,138,333.625	222,197.50	264,702.50	2,197,684.38	5,274,522.60	\$6,762,723.84

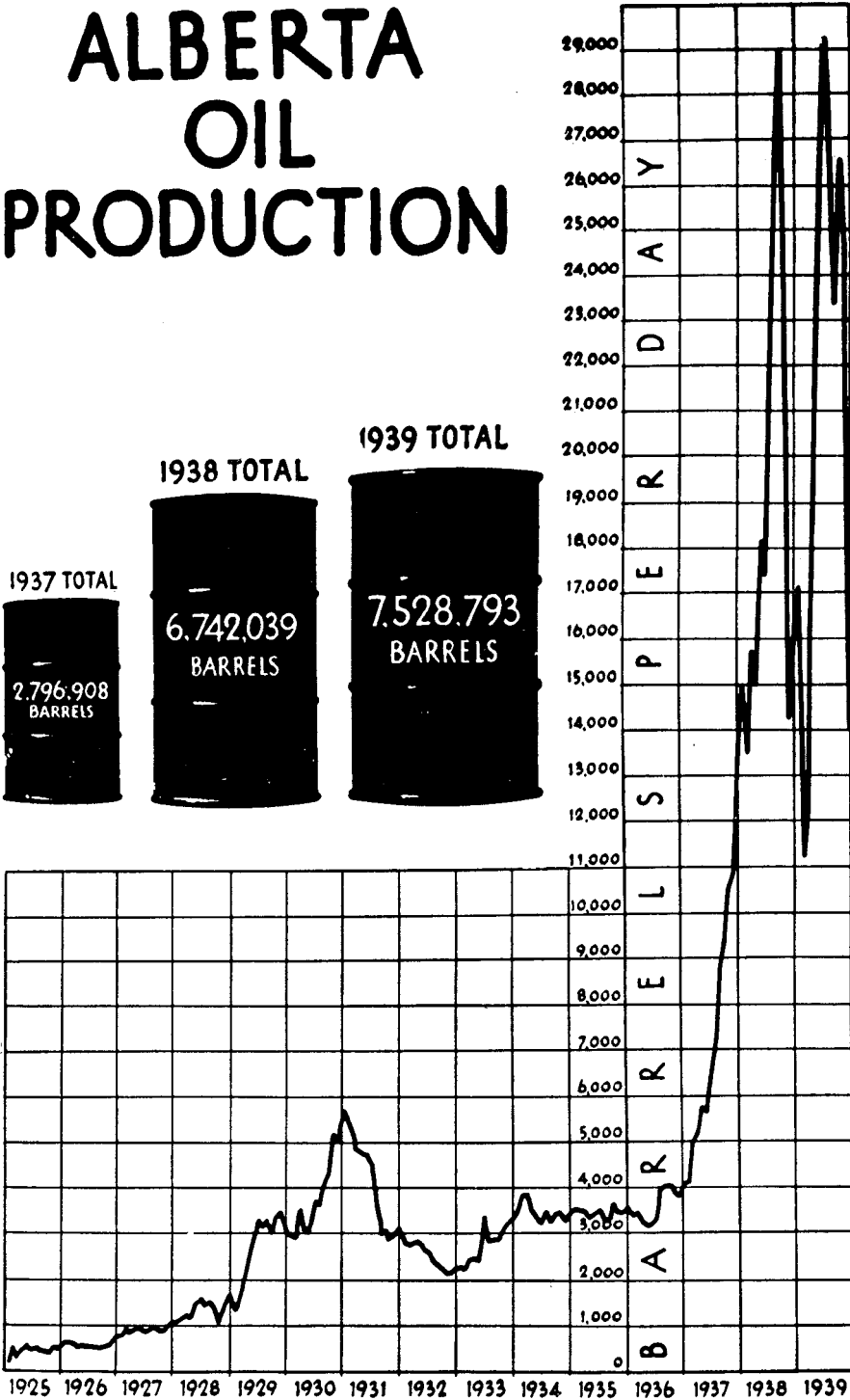
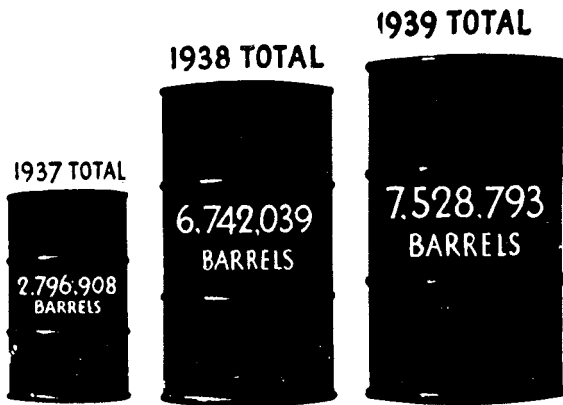
PETROLEUM AND NATURAL GAS

In the three and a half year period between the discovery of crude oil in Turner Valley's limestone during June, 1936 and the close of 1939, 104 wells were completed in this field. Of this number 10 developed either as gas wells or were abandoned as unproductive, leaving 94 successful completions in this formation. The record production total of 7,594,411 barrels for the year was recovered almost entirely from these wells.

In 1938 Canada was bracketed with Bahrein Island in the Persian Gulf and Burma for second place in British Empire oil production, the odds being in favour of these two other countries. With the close of 1939, however, Canada for the first time in history took a definite second place in the Empire. Of Canada's total figure of 7,837,711 barrels, Alberta produced 96.89 per cent. The Turner Valley field contributed approximately 99½ per cent of the provincial total. Other oil producing provinces of the Dominion are Ontario, New Brunswick and the Northwest Territories.

A statement showing Empire oil production over the past 8 years, and illustrating the encouraging advance made by Alberta in oil development over the past 3 years, is reproduced on the next page.

ALBERTA OIL PRODUCTION



DEPARTMENT OF LANDS AND MINES

PETROLEUM PRODUCTION IN THE BRITISH EMPIRE, 1932 TO 1939, INCLUSIVE

Country	1932		1933		1934		1935		1936		1937		1938		1939*	
	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent	Barrels	Per Cent
Trinidad	10,126,121	43.1	9,561,353	41.2	10,894,363	41.2	11,671,224	40.7	13,237,030	39.2	15,502,989	36.8	17,737,060	35.5	19,265,000	37.5
Canada	1,044,412	4.4	1,145,333	4.8	1,401,895	5.3	1,447,204	5.0	1,504,287	4.5	2,943,750	7.1	6,956,811	14.0	7,837,711	15.2
Bahrain Island	902		31,377	0.1	185,072	1.1	1,264,807	4.4	4,644,735	13.7	7,762,264	18.4	8,298,000	16.7	7,500,000	14.7
Burma	7,073,437	30.1	7,114,311	30.0	7,278,859	27.5	7,181,113	25.1	7,587,718	22.5	7,847,553	18.5	7,499,500	15.0	7,394,000	14.4
Brunei	1,200,026	5.1	2,035,656	8.6	2,705,350	10.2	3,302,905	11.5	3,296,938	9.7	4,397,038	10.5	5,387,210	10.8	5,840,000	11.3
India	1,743,878	7.4	1,628,803	6.9	1,921,863	7.3	2,037,810	7.1	1,978,329	5.8	2,161,653	4.9	2,330,200	4.7	2,165,000	4.3
Sarawak	2,329,733	9.9	2,206,815	9.3	1,942,591	7.4	1,776,593	6.2	1,547,882	4.6	1,655,565	3.8	1,624,880	3.3	1,345,000	2.6
Total British Empire..	23,518,509	100.0	23,723,648	100.0	26,429,993	100.0	28,681,656	100.0	33,796,819	100.0	42,270,812	100.0	49,833,661	100.0	51,346,711	100.0
World Total	1,306,714,101		1,438,767,449		1,517,121,671		1,651,993,118		1,797,993,578		2,046,650,389		1,979,268,510		2,065,070,440	
Per Cent, British Empire of World	1.80		1.65		1.74		1.74		1.88		2.06		2.51		2.48	

*Preliminary figures.

NOTE.—In the total of 7,837,711 barrels shown for Canada in 1939, 7,594,411 barrels or 96.89 per cent were produced in Alberta. The Alberta figure represents the actual production total, the balance of Canada's production being estimated.

ALBERTA OIL PRODUCTION BY FISCAL YEARS

Period	Barrels	Period	Barrels
1914 to close of fiscal year,		Fiscal year 1935-36	1,249,596
1928-29	1,453,404	1936-37	1,447,661
Fiscal year, 1929-30	1,135,014	1937-38	3,680,099
1930-31	1,614,202	1938-39	6,651,068
1931-32	1,246,328	1939-40	8,039,279
1932-33	871,082		
1933-34	1,141,473	Total	29,776,164
1934-35	1,246,958		
Increase this year in comparison with last			1,387,958

ALBERTA OIL PRODUCTION BY CALENDAR YEARS

Calendar Year	Barrels	Calendar Year	Barrels
1914 to 1924	96,504	1934	1,265,940
1925	168,643	1935	1,263,750
1926	219,598	1936	1,320,442
1927	332,133	1937	2,796,908
1928	489,531	1938	6,742,039
1929	999,152	1939	7,594,411
1930	1,433,844		
1931	1,455,195	Total	28,108,752
1932	917,622		
1933	1,013,040		
Increase this year in comparison with last			852,372

NATURAL GAS CONSUMPTION

Fiscal Year	Mcf.
1938-39	25,626,900
1939-40	24,140,489

COAL

An increase of 288,080 tons is shown in Alberta's coal production for the calendar year 1939 as compared with that of 1938. Production for 1939 totalled 5,518,105 tons with a valuation of \$14,454,327.87. An additional 362 tons were produced by farmers under permit for their own use during the year. This figure is not included in the total output mentioned above.

The increased coal production for the year is attributed to a greater railway demand, together with additional shipments of domestic Alberta coal to Ontario.

Production of coke during the calendar year 1939 showed a small increase of 221 tons. Briquettes production was increased by 7,271 tons.

Disposition of Alberta Coal in 1939.—Coal sold for consumption in Alberta totalled 1,241,618 tons; sold for consumption in other Canadian provinces, 1,782,846 tons; sold to the United States, 33,139 tons; sold to railway companies for locomotive use, 2,109,684 tons; used for making briquettes, 43,874 tons; used for making coke, 103,191 tons; used under colliery boilers, 145,275 tons; used by colliery railways, 6,282 tons; put to stock, 51,295 tons and put to waste, 52,170 tons. These tonnages include coal lifted from stock and waste heaps, a figure which is not included in the yearly production total already given.

COAL PRODUCTION

Calendar Year	Tonnage	Valuation
1930	5,755,911	\$19,379,000.00
1931	4,564,290	13,415,745.00
1932	4,870,030	13,441,193.00
1933	4,714,784	12,197,339.00
1934	4,748,848	12,440,616.53
1935	5,462,973	13,946,338.15
1936	5,696,375	14,720,004.06
1937	5,551,682	14,434,969.75
1938	5,230,025	13,702,983.41
1939	5,518,105	14,454,327.87
TOTALS	52,113,023	\$142,132,516.77
Increases this year in comparison with last	288,080	\$ 751,344.46

DEPARTMENT OF LANDS AND MINES

PRODUCTION OF COKE AND BRIQUETTES

Calendar Year	Coke (Tons)	Briquettes (Tons)
1930		24,111
1931		15,102
1932	2,183	13,582
1933	49,279	16,104
1934	59,703	15,906
1935	63,428	18,812
1936	65,239	21,015
1937	65,967	27,044
1938	68,692	39,239
1939	68,913	46,510
TOTALS	443,404	237,425
Increases this year in comparison with last	221	7,271

Disposition of Electrical Power for Alberta Coal-mines in 1939.—Purchased electrical power used by Alberta coal-mines during the calendar year 1939 totalled 27,575,926 k.w. hrs.

ELECTRICAL POWER USED FOR OPERATION OF ALBERTA COAL-MINES

Calendar Year	K.w.hrs.
1930	25,003,606
1931	16,918,625
1932	14,875,890
1933	17,611,959
1934	19,447,621
1935	23,111,373
1936	24,912,243
1937	25,483,749
1938	24,611,920
1939	27,575,926
TOTAL	219,552,912
Increase this year in comparison with last	2,964,006

SHALE AND CLAY MINED

During the calendar year 1939 four shale pits were in operation. Production from same totalled 27,236 tons of shale and clay from which 8,194,685 bricks and 2,649 tons of hollow tile were made.

Calendar Year	Shale Mined (Tons)	Bricks Manufactured (Number)	Tiles Manufactured (Tons)
1930	67,517	22,007,045	
1931	23,855	7,091,080	2,825
1932	8,446	3,444,010	182
1933	3,234	1,221,060	
1934	13,561	4,398,032	1,171
1935	20,258	7,349,300	
1936	24,588	8,963,384	
1937	27,144	9,946,794	252
1938	19,929	7,609,314	1,640
1939	27,236	8,194,685	2,649
TOTALS	235,768	80,224,704	8,719
Increases this year in comparison with last	7,307	585,371	1,009

Mines Branch Annual Report.—Statistical information covering Alberta's coal-mining activities and production of shale and clay mined for the calendar year 1939 is given in complete detail in the published Annual Report of the Mines Branch, Department of Lands and Mines, for this period, which appears as a separate publication to this Report.

TECHNICAL DIVISION

Issue of Notifications (Land Patents).—The following comparative statement shows the number of notifications and acreage covered thereby for the fiscal years from 1930-31 to 1939-40, inclusive:—

NOTIFICATIONS ISSUED

Fiscal Year	Number of Notifications	Area, Acres
1930-31	23	3,019.710
1931-32	784	111,424.478
1932-33	1,260	178,887.233
1933-34	1,106	165,224.553
1934-35	2,006	324,611.398
1935-36	2,965	433,529.126
1936-37	2,231	325,615.379
1937-38	2,266	382,382.437
1938-39	2,874	517,435.896
1939-40	2,097	301,431.972
Totals.....	17,612	2,743,562.182
Decreases this year in comparison with last.....	777	216,003.924

New Surveys.—The usual report dealing with new surveys effected during the period is detailed in the Technical Division's section of this Report.

New Maps.—New maps completed during the year were as follows:—natural resources map, scale, 20 miles to the inch; large tracings of Lloydminster-Wainwright area, 120 townships, scale, 5,000 feet to the inch; strip map of Turner Valley showing all well locations with legends to demonstrate category of each well; plant of Turner Valley, scale, 2 inches to the mile, together with graph work, prepared for the publication entitled "The History of Alberta Oil", issued during the year by the Department; agricultural lease map.

Special Areas.—The work involved during the year in the setting up of records with reference to the Special Areas is discussed in detail.

Photostat Machine.—In September, 1939, a modern photostat machine was installed in the Department to facilitate the Division's work. The many advantages materializing as a result of this equipment becoming available are dealt with.

Other activities of the Division during the year are given detailed attention.

STAFF

I refer to my remarks at the opening of this Report regarding wartime conditions as they affect this Department.

The difficulties caused by the loss of experienced personnel, away on active service, will no doubt continue. Whilst such losses are expected and are of course at such a time as this wholeheartedly approved, they place, nevertheless, certain obstacles in the way of efficient administration.

These have been and will continue to be overcome. The situation referred to, however, makes necessary a special appeal to those who remain to adapt themselves as speedily as possible to this new problem and to give of their best to the province under the difficult conditions which prevail.

The staff of this Department has in every way responded to this appeal, in return for which I express to them my sincerest appreciation.

Individual detailed reports from the various Divisions of the Department follow.

Your obedient servant,

J. HARVIE,

Deputy Minister.

Edmonton, November 30th, 1940.

Provincial Lands Administration

REPORT OF THE DIRECTOR OF LANDS, J. W. STAFFORD

In the annual report of this Division for the year ending March 31st, 1939, attention was called to the fact that the right to obtain homestead entry, second homestead and soldier grant entry was discontinued on the 24th of March of that year as well as the right to make application for the cancellation of an existing entry.

On July 25th, 1939 regulations were established providing for the issue of twenty-year agricultural leases on vacant provincial lands within certain defined areas in the Calgary, Edmonton and Peace River districts, the intention being that these regulations would replace former ones provided for acquiring lands as homestead, second homestead and soldier grant entries.

Under the provisions of these regulations, the lessee is granted an option for the purchase of the land embraced within the limits of the lease, after the lease has been in operation for a period of at least ten years, and providing in the meantime that the lessee has complied with the requirements of the regulations.

Before issuing a lease under the provisions of these regulations it is necessary that the land applied for be inspected and that at least 50 per cent of the area applied for be declared to be suitable for agricultural purposes.

Two soil survey engineers were appointed to the inspection staff of this Department for the purpose of making the necessary reports on application of this nature, and for the purpose of reporting as to the agricultural possibilities of other lands, when required so to do.

Regulations were also established for the issue of yearly permits, without fee, for the purpose of cultivating such areas of provincial lands, including those lands of a class designated school lands, which have already been cultivated, by paying in advance rental at the rate of \$1.00 per acre, per annum.

Land agencies have been maintained at Lethbridge, Calgary and Peace River, with sub-agencies at Medicine Hat, Rocky Mountain House, Athabaska, Lac La Biche, Bonnyville, Hines Creek and Grande Prairie.

In connection with the field inspection staff the following is a summary of the work performed:

Requests for inspections outstanding at the 1st of April, 1939	1,439
Reports called from 1st April, 1939 to 31st of March, 1940	4,011
Reports received from the 1st of April, 1939 to the 31st March, 1940	3,969
Reports outstanding at 31st of March, 1940	1,481

This work was carried out by five field inspectors.

The total revenue received for the fiscal year in connection with the administration of provincial lands amounted to \$148,286.74 as compared with \$159,415.63 during the previous year, showing a reduction of \$11,128.89.

Details pertaining to this revenue will be found in the Accounting Division section of this Annual Report.

In addition to the general administration of provincial lands, a complete filing system and central registry were maintained, through which all letters directed to the Department were received and from which all outgoing letters were despatched.

During this fiscal year 163,698 letters were received and 182,007 letters were despatched, being an increase over last year of 28,244 letters received and 6,380 letters despatched.

In connection with the Filing Division, new files were made which brought the total number in use up to 110,140 at the end of the fiscal year.

The number of stencils cut during the present year totalled 344 and 129,320 pages were mimeographed. Translations for this and other Departments numbered 327.

With reference to crop shares to be paid in accordance with the various cultivation leases issued, these crop shares were reduced to the same basis as in the previous year and collections compared favourably with those of former years.

A total of 1,001 hay permits was issued under authority of which 7,314 tons of hay were cut. No hay seizures were made during this fiscal year.

The following statement shows additional transactions completed during the year:

Entries granted	25
Entries cancelled	1,648
Applications for patent received	1,919
Notifications for title issued	2,097
Grazing permits issued	995
Hay permits issued	1,011
Accrued area leases issued	65
Cultivation leases issued	132
Cultivation and grazing leases cancelled	29
Provincial lands sales granted	95
Townsite leases issued	1
Surface leases issued	3
Miscellaneous leases issued	8
Licences of occupation issued	10
Fur farming leases issued	2
Assignments registered	97

The following statement gives particulars concerning transactions in connection with long term grazing leases during the fiscal year under review:

	Number	Area (Acres)
Leases in existence at April 1, 1939	1,396	1,812,280.34
Leases issued	94	84,661.90
Leases cancelled	95	38,193.76
Leases reinstated	20	10,756.17
Leases transferred to Special Areas	3	105,597.45
Leases re-transferred from Special Areas	3	105,597.45
Area added to existing leases .....	...	16,339.50
Area withdrawn from existing leases .....	...	29,600.77

On March 31st, 1940, there were in existence 1,415 long term grazing leases comprising an area of 1,856,216.94 acres, summarized as follows:

	Number	Area (Acres)
Dominion leases	627	940,107.77
Provincial leases	788	916,109.17
	1,415	

School Lands Administration

The report for the fiscal year ending March 31st, 1940, in connection with the administration of school lands, is submitted herewith.

In dealing with the matter of adjustments or compromises with reference to outstanding school lands sales, the Board, appointed for that purpose, continued to function throughout the year and 289 cases were dealt with during this period in connection with which reductions on school lands were made as follows:

Principal	\$436,829.91
Interest	490,320.57
Making a total of	<u>\$927,150.48</u>

This makes a grand total of 2,253 cases dealt with to the end of this fiscal year, resulting in total reductions being granted in the sum of \$2,373,296.43 on account of principal and \$1,852,712.70 on account of interest.

All of the Board's recommendations were accepted by the Government and the reductions recommended in each case were made effective by various orders in council passed during the year.

Two sales of lands at public auction were held during the fiscal year at which sales 20 parcels of lands were disposed of comprising a total of 2,604.23 acres for an amount of \$18,761.53, being an average of \$7.20 per acre.

The total net revenue collected for the fiscal year amounted to \$455,291.32, as compared with \$444,519.37 for the previous year, representing an increase of \$10,771.95.

Of the total revenue collected the sum of \$83,664.73 was paid on account of principal moneys in connection with land sales and was transferred to the credit of the School Endowment Fund. The balance of the moneys, namely \$371,626.59, comprises payments made on account of interest, rentals, royalties, etc., and other items of a more or less similar nature.

The increase in revenue is chiefly attributable to more favourable farming conditions throughout the province resulting in a larger increase in production.

Regulations were established for the issue of yearly permits on payment of an annual rental of \$1.00 per acre in advance, without the payment of fee, for the purpose of cultivating areas of school lands, which had previously been brought under cultivation, and where the area suitable for cultivation on the quarter section affected was less than the area required for the issue of a cultivation lease under the provisions of the regulations.

During the fiscal year 508 cultivation leases were issued comprising an area of 95,737.32 acres, an increase of 467 leases over the number issued last year.

A total of 315 permits was issued authorizing the cutting of 3,405 tons of hay under authority of which 2,793 tons were cut. No hay seizures were made during this fiscal year.

In connection with timber operations 7 timber berths were disposed of by sale and from these berths and other berths in operation the following material was manufactured:

9,874,255 F.B.M. of lumber
37,141 railway ties

In addition to the above, 311 timber permits were issued authorizing the cutting of timber on school lands and under authority of these permits the following material was cut:

1,371,390	F.B.M. of lumber
33,952	lineal feet of logs
5,887	fence posts
322	fence rails
1,087.75	ords of cordwood
12,801	railway ties

During the year a total of 22 timber seizures was made covering the following material:

318,601	F.B.M. of lumber
3,115	lineal feet of logs
163	telephone poles
160,000	lath
75	fence posts
1,099	railway ties

In addition to usual routine business the following transactions were completed:

Assignments registered	70
Cultivation and grazing leases issued	508
Cultivation and grazing leases cancelled	100
Grazing permits issued	1,927
Hay permits issued	315
Timber permits issued	311
Timber seizures	22
Hay seizures	Nil

Forestry

REPORT OF THE DIRECTOR OF FORESTRY, T. F. BLEFGEN

An examination of the Annual Reports of this Division covering the past few years offers little encouragement. In 1936 there was a small revival in the demand for lumber products in the province, with the result that the demand for timber increased to a certain extent, with added revenue to the Department. This condition extended into 1937 but, during the latter part of that year, it again slumped and continued in a slump until the end of the fiscal year 1939-40, with which this report deals.

It is also of interest to note that, year after year, the report of this Division has drawn attention to the fact that the fire protection organization in the Northern Alberta Fire Ranging District is entirely inadequate as to personnel, methods of transportation, communication and equipment available. Year after year it has been pointed out that each man in this vast northern area is required to supervise a larger district than it is humanly possible to control in periods of average fire hazard and, during a period of excessive fire hazard, the task becomes a hopeless one.

In the Report of last year a ray of hope appeared in the establishment of radio communication for the detection of fires from lookouts with communication between these lookouts and the personnel on the ground. The areas required to be supervised by the rangers are large but, with the benefits of speedier detection of fires, with the resultant speed up of suppression activities on the part of the ranger, it is hoped that some assistance will be given to these hard pressed individuals and that the results in suppression costs will be gratifying.

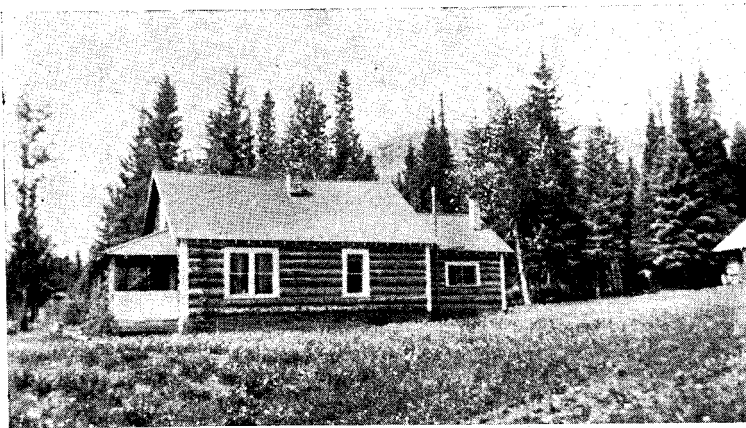


Crowsnest-Bow River Forest Reserve, fire in Blind Canyon

Towards the close of the fiscal year under review Canada once again became involved in war. During the last World War the demand for the timber resources of the country increased tremendously. It is expected that the present war will create an even greater demand for timber resources. It is hoped that when this demand arises, the Alberta Forest Service will be given added assistance in personnel and equipment to preserve this much needed natural resource.

FOREST PROTECTION

Previous Annual Reports have drawn attention to increasing fire hazard in the northern part of the province, due to the extension of settlement and the fact that the staff in this district is extremely small. The ranger staff has remained, during the past year, approximately the same as that of 1938. The fire hazard was greater due to extreme drought conditions, and settlement has reached farther and farther into the outlying and unproductive areas with disastrous results. With the limited means at the disposal of the Service, an educational campaign, through the efforts of the rangers, has been carried on from year to year for the benefit of the public. In some parts of the country this campaign has been extremely successful and the settlers have co-operated wholeheartedly in keeping down the fire menace. In other parts, however, principally in sections populated by central Europeans, there is a definite refusal on the part of the public resident therein to co-operate with the Service, even though this co-operation would benefit them in the long run.



Sentinel ranger station house, Crowsnest-Bow River Forest Reserve—summer and winter

Fire Season.—The winter of 1938-39 produced a normal snowfall in most parts of the province. The area directly west of the City of Edmonton was an exception, the snowfall being far below normal in this section. The snow disappeared earlier than in the average year and was not followed by the usual spring showers. The result was an early and intensive fire hazard over almost the entire timbered area of the province. Numerous fires occurred, especially in the district west of Edmonton where the snowfall had been light throughout the winter.

During the summer months sufficient rain occurred over the northern part of the province to reduce the fire hazard in that area for the summer months. However, in the district west of Edmonton and in the forest reserves along the east slope of the Rockies, the fire hazard continued through the summer and became intensified in certain areas during the month of August. In this month large, expensive fires occurred in the southern reserves, which spread over and destroyed big areas of timber. Suppression of these fires was extremely difficult due to high, hot winds which occurred almost daily throughout this period. Under conditions such as these the best of protective services are of little value and, although the staff did excellent work, ultimate success in suppressing these fires was only brought about through the medium of rainfall. The sole remedy for such a situation is better co-operation from the public, who are responsible for setting the greater percentage of Alberta's fires.

Fire Prevention.—In former reports mention has been made of the need for up-to-date legislation and proper enforcement of same. This is urgently required to impress upon certain people the necessity of care with fire for the benefit of all. It is hoped that new legislation will be forthcoming in the near future. This will allow for greater efficiency in the enforcement of regulations compelling the careless individual to co-operate with the careful one in saving the natural resources of timber and all those other resources dependent upon forest cover.

BURNING PERMITS ISSUED, PROVINCE OF ALBERTA, 1939

By the Forest Service:

Cypress Hills	14	
Crowsnest-Bow River	182	
Clearwater	16	
Brazeau-Athabaska		
By the staff of the Forest Reserve		212
Western	484	
McMurray	33	
Slave Lake	217	
Peace River	482	
By the staff of the Northern Alberta Forest District		1,216
Sub-total		1,428

By Outside Agencies:

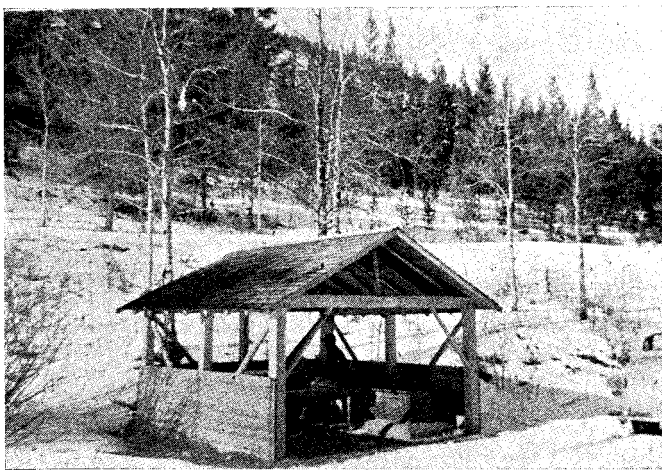
Honorary Fire Guardians:		
Western	430	
McMurray	31	
Slave Lake	253	
Peace River	886	
Fire Guardians in Municipal Districts		1,600
Royal Canadian Mounted Police		69
Sub-total		2,326
Total		3,754

PROSECUTIONS AND CONVICTIONS, PRAIRIE FIRES ACT, 1939

	Instituted by Forest Service	Instituted by other Agencies	Totals
Number of prosecutions	43	102	145
Number of convictions	39	74	113

Fire Detection.—The Report for the season of 1938 tells of the construction of four lookout towers in the Western Division of the Northern Alberta Fire Ranging District, west of the City of Edmonton. It also mentions that these lookout towers together with one in the Brazeau Forest, adjacent to the area, were equipped with radio so that fires being detected from these points could be immediately reported to officers on the ground. During the 1938 season a start was made in supplying the ground staff with portable radio equipment. The advantage of direct contact between the ground staff and the lookouts was immediately apparent. During the season of 1939 one more lookout was constructed, known as the Brezeau Tower, located in section 7, township 47, range 10, west of the 5th meridian, on the height of land between the Brazeau and Pembina rivers. This tower was equipped with radio. Portable radio equipment was not immediately available to the personnel of the Western Division in the early spring but, during the summer months, these men were rapidly supplied with this equipment and there was a very noticeable improvement in the detection of fires and the speed with which the ground staff was able to take control. Before the end of the season all members of the Western Division were equipped with radio. In addition, a number of the rangers on the Brazeau-Athabaska Forest, whose districts are beyond telephone communication, were similarly equipped.

During the summer, when conditions permitted, a survey was made of areas to the north and west of those already covered by the lookout system. The result was that two points were picked which would cover large areas not yet covered by the existing system, and which would work in conjunction with lookouts already established. The construction of these towers had to be held over until the following year due to shortage of funds.



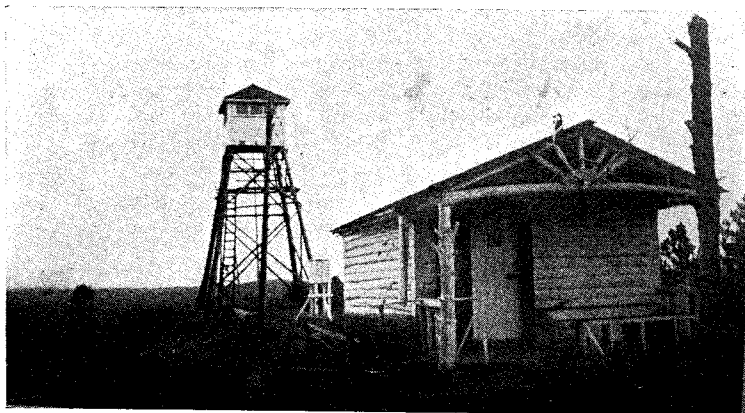
Crowsnest-Bow River Forest Reserve, Livingstone River camp shelter

The detection system on the forest reserves, which has been established for a number of years, was carried on with the usual success. Lookout points have been located on high mountain peaks, stations have been established and the entire system connected by telephone to the ground staff. In last season's Report it was pointed out that in the Brazeau Forest this telephone-connected lookout system was in turn joined with the radio equipped system.

The use of portable radios by the ground staff during the latter part of 1939 was found to be of great assistance to them in the speed with which they were

able to contact and suppress fires. It is expected, that with more experience in the use of this communication system, the season of 1940 will show even greater results.

Fire Suppression.—Mention has been made previously in this Report of the abnormal fire hazard with which the province was faced in the spring of 1939. Lack of winter snow in certain areas, coupled with a lack of the usual spring rains, created a hazard which resulted in a large number of fires. The small staff available made a determined effort to take care of all fires menacing merchantable timber or valuable property, but the large areas over which they have supervision made it almost impossible for them to take action successfully on every fire. Some parts of the Northern Alberta Fire Ranging District have practically no avenues of travel, other than an occasional Indian trail, with the result that the ranger is not only slowed down in reaching the fire but finds it difficult to bring in the necessary men, equipment and supplies for suppression activities. It is true that the settlement of timbered areas eventually opens up trails and roads into formerly inaccessible places, but the history of settlement shows that the settler, with the fire hazard, arrives first and the roads later.



Brazeau-Athabaska Forest Reserve—Lovett lookout

Mention has been made previously in this Report of the co-operation of the settlers in various parts of the so-called frontier. Tribute should also be paid to the co-operation of the travelling public, who use the timbered areas of the province for recreational purposes. The people who use these areas for fishing, camping and hunting have become increasingly fire conscious and, with this co-operation from the public, the Forest Service has been able to cut to a minimum the losses on the reserves along the east slope of the Rockies. Occasionally, however, a fire gets beyond the control of human suppression agencies. These fires, in many cases, are the result of carelessness on the part of campers. Over a period of years, however, this menace is gradually decreasing in spite of the fact that the number of people using the reserves is gradually increasing from year to year.

The field staff is hampered not only by large areas, inaccessible to the faster modes of travel, but they have also been hampered through the past few years by a decided lack in the amount of available equipment. It is hoped, that as conditions throughout the country become better and funds become available, this will be remedied to give the ground personnel a better opportunity of carrying on successful suppression activities.

The staff has shown itself to be extremely loyal, putting in long hours of work during the fire season, and they have been extremely successful in fire suppression work in spite of their handicaps. A great deal of credit should be given to these men for their loyalty and the manner in which they try to overcome almost insurmountable obstacles in their work.



Brazeau-Athabaska Forest Reserve—Leyland house and speeder shed

During the fire season of 1939, suppression operations were carried out with fires which reached a total of 499. This number was only 22 less than the season of 1938, which was considered a peak in fire seasons throughout the province. Of these fires 264 were in the larger classes, while the balance of 235 were small fires requiring, in many cases, only the attention of the ranger himself.

The causes of these fires were, as in former years, principally due to campers and settlers. The percentage of fires under this classification is approximately the same as in the previous year. It is noticeable, however, that there is a lower percentage of fires attributed to campers than in previous years. Another bright spot is the fact that the percentage of fires of incendiary origin was substantially reduced from the last few years.

COMPARISON OF FIRE LOSSES BY PERCENTAGE

<i>Causes</i>	1931	1932	1933	1934	1935	1936	1937	1938	1939
Campers	23.7	52.8	38.9	35.4	42.3	38.3	35.9	27.4	28.8
Smokers	3.2	5.3	13.5	11.7	9.3	9.7	4.5	3.6	5.0
Settlers	21.9	17.1	17.4	17.9	8.2	11.7	20.7	14.6	14.8
Railways	6.6	4.5	2.8	5.0	10.3	4.0	9.3	4.2	4.6
Lightning .....	.6	2.6	5.2	7.5	1.0	14.1	2.2	2.3	4.0
Industrial Operations	1.9	1.1	1.7	4.2	1.0	3.2	.8	1.4	1.4
Incendiary	15.1	8.2	11.8	11.2	22.7	10.1	13.5	14.6	9.8
Public Works	1.4	.5	1.4	1.3	1.0	.4	.3	.8	.6
Unclassified	1.5	1.6	.....	2.5	2.1	2.0	7.2	9.0	13.4
Unknown	24.1	6.3	7.3	3.3	2.1	6.5	5.6	22.1	17.6

DEPARTMENT OF LANDS AND MINES

RAILWAY FIRE LOSSES, CALENDAR YEAR 1939

This statement deals only with fires burning on forested territory under the supervision of the Alberta Forest Service, and which started within 300 feet of the centre line of the railway right of way.

Causes and number of fires:

Railway causes—Locomotives	11	
Employees	8	
Sub-total	—	19
Other causes—Campers and travellers	3	
Settlers	11	
Unknown	13	
Unclassified	2	
Sub-total	—	29
Total	—	48

Number of acres burned:

Slashing or old burn	
Timber land	
Young growth	23½
Not forested	416
Total	439½

Loss:

Timber	
Young growth	\$ 35.00
Forest products	
Other property	550.00
Total	\$585.00

FORESTRY

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ANNUAL STATEMENT OF FIRES BY CAUSES, MONTHLY DISTRIBUTION, ETC., WITHIN AND OUTSIDE FOREST RESERVES, ALBERTA—CALENDAR YEAR, 1939

Cause	Number					P.C.	Damage	Area, Acres	Monthly Distribution												Fires Inside Provincial Forests		Fires Outside Provincial Forests	
									Monthly Distribution												Fires Inside Provincial Forests		Fires Outside Provincial Forests	
	A	B	C	D	Tot.				January	February	March	April	May	June	July	August	September	October	November	December	No.	Area, Acres	No.	Area, Acres
Camp-fires	28	54	33	29	144	28.8	\$ 141,260.18	118,979 1/4	10	12	6	23	24	8	14	29	4	3	2	9	14	14,595 1/2	130	104,383 3/4
Smokers	4	7	11	3	25	5	7,530.88	4,166 1/2	1	1	1	5	8	1	3	7	7	1	1	5	5	907	20	3,259 1/2
Settlers	15	11	30	18	74	14.8	71,491.20	67,971	1	1	1	30	20	6	9	5	2	2	1	1	2	14	74	67,971
Railways	4	14	4	4	22	4.6	66.00	161	1	1	1	7	2	7	3	3	1	2	1	1	2	14	20	160 3/4
Lightning	4	4	7	5	20	4	80,647.38	33,146	1	1	1	1	2	1	4	12	1	1	1	1	14	21,705	6	11,441
Industrial	5	1	1	1	7	1.4	3,307.50	871 3/4	1	1	1	2	3	3	1	1	1	1	1	1	1	6	871 3/4	
Operations	7	3	20	19	49	9.8	106,024.78	81,755 1/2	1	1	1	17	18	3	4	4	1	1	1	3	3	46	81,755 1/2	
Incendiary	2	1	1	1	3	.6	30	50 3/4	1	1	1	1	1	1	1	1	1	1	1	1	3	3	50 3/4	
Public Works	15	25	21	6	67	13.4	18,036.20	17,499 3/4	4	5	9	13	15	4	1	9	3	1	4	2	2	3	65	17,496 3/4
Unclassified	10	23	24	31	88	17.6	201,037.10	104,537 3/4	4	2	4	19	28	2	4	18	4	3	1	5	5	1,003	83	103,534 3/4
Unknown																								
TOTALS	87	148	152	112	499	100.0	\$ 629,401.52	429,139 1/4	20	20	19	118	120	32	43	85	16	11	6	9	46	38,213 3/4	453	390,925 1/2
Per cent.	17.4	29.7	30.5	22.4	100				4	4	3.8	23.7	24.1	6.4	8.6	17	3.2	2.2	1.2	1.8	9.2		90.8	

ANNUAL SUMMARY OF FOREST FIRE LOSSES, ALBERTA—CALENDAR YEAR, 1939

FIRE CAUSES	NUMBER OF FIRES					LANDS AFFECTED								LOSS										SUPPRESSION COSTS				Burning Permits Issued
						Ownership		AREA	CONDITION				TIMBER (MERCHANTABLE AND CUT-OVER)						Loss of Timber	Loss of Young Growth	Loss of Other Property	Total Loss	Ranger Service	Other Expenditures	Total			
	Public, Acres	Private, Acres	Merchantable Timber, Acres	Cut-over Timber, Acres	Young Growth, Acres	Not Forested, Acres	SALVABLE			UNSALVABLE																		
							Saw-timber, M.ft.B.M.	Other, Cords	Depreciation	Saw-timber, M.ft.B.M.	Other, Cords	Loss																
FIRES WITHIN FOREST RESERVES																												
Campers	4	6	1	3	14	14,595 ½	.....	14,595 ½	5,288	.....	8,694	613 ½	292	1,950	\$1,163.00	2,450	24,391	\$ 13,778.88	\$ 14,941.88	\$ 20,682.00	.....	\$ 35,623.88	\$ 569.50	\$ 17,819.47	\$ 18,388.97	.....	
Smokers .....	.....	4	.....	1	5	907	.....	907	7	.....	900	.....	.....	12	6.00	4	24	33.00	39.00	1,692.00	.....	1,731.00	67.88	2,391.79	2,459.67	.....	
Settlers .....	.....	.....	.....	.....	.....	¼	.....	¼	.....	.....	.....	¼	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.75	4.75
Railways	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lightning	4	3	4	3	14	21,705	.....	21,705	1,970	2,000	16,844	891	.....	.....	.....	1,755	30,270	13,488.75	13,488.75	48,060.00	.....	61,548.75	1,503.18	23,090.49	24,593.67	.....	
Industrial Operations .....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	\$1,170.00	1,170.00	6.00	27.01	33.01	.....		
Incendiary	3	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.71	23.10	29.81	.....		
Unclassified .....	.....	2	.....	.....	2	3	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	47.55	.....	
Unknown	3	1	.....	1	5	1,003	.....	1,003	3	2	1,000	.....	.....	20	15.00	.....	36	15.00	30.00	4.00	.....	1,347.50	15.95	31.60	3,499.25	.....	
TOTALS	16	17	5	8	46	38,312 ¾	.....	38,213 ¾	7,268	2,002	27,439	1,504 ¾	292	1,982	\$1,184.00	4,229	54,721	\$ 27,329.13	\$ 28,513.13	\$ 71,688.00	\$1,254.00	\$ 101,455.13	\$ 2,525.85	\$ 46,530.83	\$ 49,056.68	.....	
FIRES OUTSIDE FOREST RESERVES																												
Campers	25	48	32	26	131	103,521 ¾	862	104,383 ¾	24,810 ½	1,782 ¾	24,074 ¾	53,716 ¼	40	.....	.....	34,883	104,524	\$ 75,951.67	\$ 75,951.67	\$ 30,602.13	\$ 245.50	\$ 106,799.30	\$ 1,484.74	\$ 22,111.09	\$ 23,595.83	.....	
Smokers	4	3	11	2	20	2,678 ½	581	3,259 ½	462 ½	6	2,036	755	127	1,026	.....	20 ½	2,803	1,647.13	1,936.38	4,077.75	81.00	6,095.13	204.13	2,124.93	2,329.06	.....	
Settlers	15	11	30	18	74	48,414 ¼	19,556 ¾	67,971	5,102 ¾	6,886	11,835 ½	44,147 ¼	999	18,260	11,232.90	857 ½	63,895	38,235.70	49,468.60	29,871.50	3,384.00	82,724.10	1,009.45	8,524.04	9,533.49	.....	
Railways	2	14	4	.....	20	150 ¾	10 ½	160 ¾	2 ½	.....	3 ½	154 ¾	3	.....	.....	.....	.....	6.00	6.00	10.00	50.00	66.00	46.83	24.60	71.43	.....	
Lightning .....	.....	1	3	2	6	11,441	.....	11,441	3,921	.....	2,600	4,920	.....	.....	.....	18,500	14,770	13,918.63	5,180.00	.....	.....	19,098.63	203.83	4,190.27	4,394.10	.....	
Industrial Operations .....	.....	4	1	1	6	653	218 ¾	871 ¾	110	114	224	423 ¾	.....	.....	.....	100	2,240	1,577.50	1,577.50	560.00	.....	2,137.50	47.02	429.90	476.92	.....	
Incendiary	4	3	20	19	46	72,373 ½	9,382	81,755 ½	28,499 ¾	8,325	11,975	32,956 ¼	113	.....	2.54	44,348 ½	112,635	78,138.40	78,140.94	27,886.38	.....	106,027.32	778.43	15,897.25	16,675.68	.....	
Unclassified	15	23	21	6	65	16,857 ¾	639	17,496 ¾	2,719 ½	512	12,787 ¾	1,478	20	.....	.....	1,644	21,620	9,785.75	9,785.75	8,231.45	.....	18,017.20	499.75	7,713.91	8,213.66	.....	
Unknown	6	22	24	30	82	96,901 ¼	6,633 ½	103,534 ¾	26,848 ¾	21,225	35,794	19,667 ½	3	50	.....	27,775 ½	214,699	146,875.00	146,875.00	48,904.60	3,910.00	199,689.60	818.76	25,041.27	25,860.03	.....	
Public Works .....	.....	2	1	.....	3	50 ¾	.....	50 ¾	.....	.....	.....	50 ¾	.....	.....	.....	.....	.....	.....	.....	.30	.....	.30	26.48	8.80	35.28	.....	
TOTALS	71	131	147	104	453	353,042	37,883 ½	390,925 ½	92,475 ¾	38,850 ¾	101,329 ½	158,269 ½	1,305	19,336	\$11,524.69	128,129	537,186	\$366,135.78	\$377,660.47	\$155,323.81	\$7,670.80	\$ 540,655.08	\$ 5,119.42	\$ 94,121.99	\$ 99,241.41	.....	
FIRES WITHIN AND WITHOUT FOREST RESERVES																												
Campers	28	54	33	29	144	118,117 ¼	862	118,979 ¼	30,098 ½	1,782 ¾	32,768 ¾	54,329 ¾	332	1,950	\$ 1,163.00	37,333	128,915	\$ 89,730.55	\$ 90,893.55	\$ 51,284.13	\$ 245.50	\$ 142,423.18	\$ 2,054.24	\$ 39,930.56	\$ 41,984.80	.....	
Smokers	4	7	11	3	25	3,585 ½	581	4,166 ½	469 ½	6	2,936	755	127	1,038	295.25	24 ½	2,827	1,680.13	1,975.38	5,769.75	81.00	7,826.13	272.01	4,516.72	4,788.73	.....	
Settlers	15	11	30	18	74	48,414 ¼	19,556 ¾	67,971	5,102 ¾	6,886	11,835 ½	44,147 ¼	999	18,260	11,232.90	857 ½	63,895	38,235.70	49,468.60	29,871.50	3,384.00	82,724.10	1,009.45	8,524.04	9,533.49	.....	
Railways	4	14	4	.....	22	150 ¾	10 ½	161	2 ½	.....	3 ½	155	3	.....	.....	.....	.....	6.00	6.00	10.00	50.00	66.00	51.58	24.60	76.18	.....	
Lightning	4	4	7	5	20	33,146	.....	33,146	5,891	2,000	19,444	5,811	.....	.....	.....	20,275	45,040	27,407.38	27,407.38	53,240.00	.....	80,647.38	1,707.01	27,280.76	28,987.77	.....	
Industrial Operations .....	.....	5	1	1	7	653	218 ¾	871 ¾	110	114	224	423 ¾	.....	.....	.....	100	2,240	1,577.50	1,577.50	560.00	1,170.00	3,456.91	53.02	456.91	509.93	.....	
Incendiary	7	3	20	19	49	72,373 ½	9,382	81,755 ½	28,499 ¾	8,325	11,975	32,956 ¼	113	.....	2.54	44,348 ½	112,635	78,138.40	78,140.94	27,886.38	.....	106,027.32	785.14	15,920.35	16,705.49	.....	
Unclassified	15	25	21	6	67	16,860 ¾	639	17,499 ¾	2,719 ½	514	12,788 ¾	1,478	20	20	15.00	1,644	21,620	9,800.75	9,815.75	8,235.45	.....	18,051.20	515.70	7,745.51	8,261.21	.....	
Unknown	10	23	24	31	88	97,904 ¼	6,633 ½	104,537 ¾	26,851 ¼	21,225	36,794	19,667 ½	3	50	.....	27,775 ½	214,735	146,888.50	146,888.50	50,154.60	3,994.00	201,037.10	1,170.64	28,188.64	29,359.28	.....	
Public Works .....	.....	2	1	.....	3	50 ¾	.....	50 ¾	.....	.....	.....	50 ¾	.....	.....	.....	.....	.....	.....	.....	.30	.....	.30	26.48	8.80	35.28	.....	
TOTALS	87	148	152	112	499	391,255 ¾	37,883 ½	429,139 ¾	99,743 ¾	40,852 ¾	128,768 ½	159,774 ¼	1,597	21,318	\$12,708.69	132,358	591,907	\$393,464.91	\$406,173.60	\$227,011.81	\$8,924.80	\$ 642,110.21	\$ 7,645.27	\$140,652.82	\$148,298.09	.....	
SUMMARY BY DIVISIONS																												
N.A.F.D.*	65	126	133	99	423	326,807 ¼	23,743	350,550 ½	88,985 ¾	35,490 ¼	92,951 ½	133,122 ¾	226	140	.....	128,054	526,595	\$350,671.34	\$350,671.34	\$127,981.06	\$5,141.50	\$ 483,793.90	\$ 4,372.32	\$ 82,004.30	\$ 86,376.62	.....	
Clearwater .....	.....	2	5	8	15	38,225 ½	13,380	51,605 ½	6,910	3,340 ½	15,888	25,467	788	18,450	\$11,140.04	.....	17,654	18,560.67	29,700.71	47,489.50	2,404.00	79,594.21	1,456.91	11,364.78	12,821.69	.....	
Crownsnest-Bow River	15	9	10	4	38	24,282	740	25,022	3,419	2,022	18,504	1,077	333	740	442.65	3,750	47,467	22,105.15	22,547.80	45,702.25	1,739.30	69,629.35	1,108.23	34,136.81	35,245.04	.....	
Brazeau-Athabaska	6	11	4	1	22	1,941	20 ½	1,961 ½	429	.....	1,425	107 ½	250	1,988	1,126.00	554	191	2,127.75	3,253.75	5,839.00	.....	9,092.75	701.85	5,091.00	5,792.85	.....	
Cypress Hills	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.96	.....	
TOTALS	87	148	152	112	499	391,255 ¾	37,883 ½	429,139 ¾	99,743 ¾	40,852 ¾	128,768 ½	159,774 ¼	1,597	21,318	\$12,708.69	132,358	591,907	\$393,464.91	\$406,173.60	\$227,011.81	\$8,924.80	\$ 642,110.21	\$ 7,645.27	\$140,652.82	\$148,298.09	.....	

*N.A.F.D.—Northern Alberta Forest District.

SUMMARY SHOWING TOTAL NUMBER OF FIRES AND BURNT OVER AREA
FROM 1931 TO 1939 INCLUSIVE

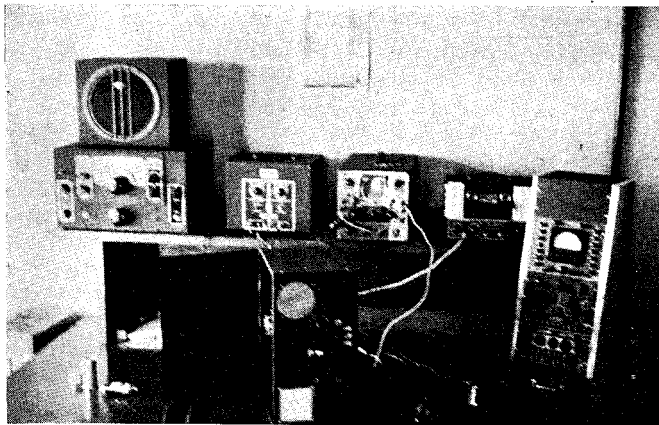
Year	Total No. of Fires	Total Acreage	Not Forested	Net Acreage
1931	622	604,876.12	209,064.75	395,811.37
1932	379	136,117.89	68,253.42	67,864.47
1933	288	93,765	30,955.88	62,809.12
1934	240	58,870	21,656.5	37,213.5
1935	97	6,319.75	3,267.75	3,052
1936	248	204,454	46,534	157,920
1937	375	835,259	155,069.5	680,189.5
1938	521	1,758,345.5	842,384	915,961.5
1939	499	429,139.25	159,774.5	269,364.75
TOTALS	3,269	4,127,146.51	1,536,960.30	2,590,186.21

Radio.—An outline of the work covered by the Radio Communication Branch of the Forest Service for the fiscal year beginning April 1st, 1939 begins with the opening of lookout stations for the fire season. Due to the unprecedented lack of moisture at the start of the period under review, the fire hazard became extremely high and work on the lookout stations started as early as April 19th.

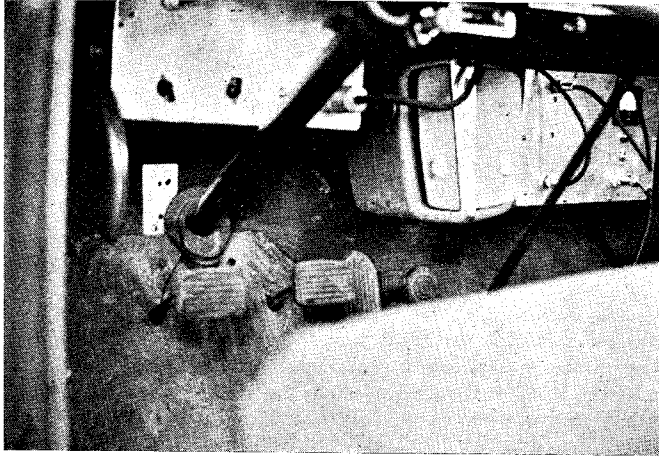
All equipment had been stored the previous autumn at the lookout points, and provision had been made to prevent damage to it as a result of exposure to cold or moisture. Storage batteries, which had been buried the previous November, after being fully charged, were found to be in good condition when placed in service again in April.

New portable equipment had been purchased for use by ranger personnel in the Western District, similar to that in use by the United States Forest Service. Tests had been carried out during the latter part of the winter, using this equipment, and very satisfactory results had been obtained.

The portable radiophones, weighing complete about sixty pounds, are packed in a strong wooden box which contains the set and all accessories. This box is of suitable dimensions for a side pack on a pack horse, or may be arranged as a top pack if desired. In cases of emergency the set, complete with a portable antenna and portable type batteries, may be removed from the kitbox and placed in a waterproofed pack sack. The unit weighs only twenty-three pounds and may easily be carried by a man on foot, or attached to a riding saddle.



Radio test and service equipment



Radio installation in car—receiver on left, transmitter on right

This equipment was distributed to all rangers in the Western Division, eleven in number, and also to rangers in the Brazeau-Athabaska Reserve, whose ranger districts were in the vicinity of lookout towers, or who were cut off from other means of communication. Each ranger was given instructions in the use and care of the set, and allowed to familiarize himself with it thoroughly before taking it away from his headquarters.

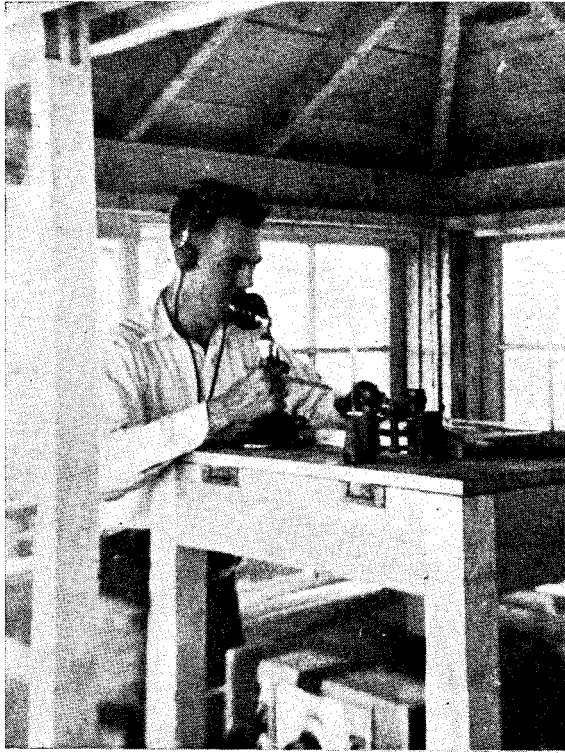
The majority of the ranger personnel showed a marked interest in the new form of communication, though a few of them suffered rather severely at first from what is known as "mike fright", which evinces itself as a total inability to either say anything or even think of anything to say. When this situation had been overcome and they had learned to treat the set as a sort of portable telephone, the real use of this form of communication for Forest Service work became apparent.

In all, seventeen portable radiophone sets were in operation in the field during the season, except for minor equipment failures which could not be foreseen and which were really unavoidable, this equipment operated extremely satisfactorily.

Due to the added experience of the personnel, operating radio equipment at the various lookout towers and headquarters stations required very little maintenance work and it was gratifying to note that, for the entire season, the communication efficiency of the Forest Service was approximately 98 per cent.

The receivers originally purchased in 1938 were found to be inadequate. They were returned to the manufacturer and replaced by a more selective and powerful type which was placed in service at the beginning of the season. On account of the extremely low power of the portable sets, it was found advisable to have sensitive receivers at the tower points in order that communication efficiency could be maintained, and, in cases where two portables were unable to communicate direct, they were able to utilize the tower station for a relay point and pass information to each other through the tower station. This was found especially useful when effecting communication between portable and mobile units.

Transmitting equipment was purchased for two car installations, but, as it was found impossible to secure a suitable receiver for this work from the manufacturers, two receivers were constructed by the Forestry's own personnel. These receivers are of the fixed frequency type, having the two forestry frequencies



Tower lookoutman at work—reporting fires

incorporated on a switch, thus doing away entirely with the necessity for tuning. Thus the mobile installations are as simple to operate as an ordinary telephone, and the possibility of communication failure, due to operator error, is cut to a minimum. In all equipment designed by this Department extreme simplicity of control and operation has been the policy maintained so that untrained personnel may use it with a minimum of previous training.

All lookout stations were supplied at the beginning of the season with a certain amount of meteorological equipment in order that accurate weather reports could be forwarded to the headquarters office twice daily. Rain gauges were furnished by the Department of Transport, but maximum and minimum thermometers, a wet and dry bulb thermometer and the necessary Stevenson screens for housing them, were supplied by the Forest Service of this Department.

Instructions for the use of these instruments were given to the various look-outmen concerned, and it was found that the increased accuracy of the weather reports submitted was well worth the effort expended in installing this equipment. It is expected that consolidation of all weather reports for the entire season will enable the Service in the future to forecast fire hazard in various districts with reasonable accuracy, thus making it possible to curtail burning permit privileges before a point of definite hazard is reached.

A high power transmitting and receiving station was installed in the Service's Edson office at the headquarters of the Brazeau-Athabaska Forest Reserve, to provide communication with portable equipment in the reserve and also direct with the headquarters office in Edmonton. Due to reception conditions in Edson, and also to local interference, considerable difficulty was experienced at

first, but the townspeople showed willingness to co-operate with the personnel in overcoming this nuisance, and a considerable amount of work was done to alleviate the severe noise condition which had existed prior to this station becoming installed.

A semi-portable installation was completed at Entrance, using a Type I car transmitter and a small Howard communication receiver, both of which were powered from a 6-volt storage battery. Provision for charging the storage battery was made by supplying a small gasoline driven generator. The operation of this generator is exceedingly economical, and the entire station equipment may be moved on a wagon to a different location by untrained personnel.

It is of interest to note that, during the month of August, a request was received from the Chief Ranger at Lesser Slave Lake for radio communication between a large fire, situated in the Wabiskaw area, and the Lesser Slave Lake headquarters. Two portable type radiophones were taken into this area, and one was installed permanently at the headquarters office. The other was installed at the fire, a distance of approximately forty miles airline. Despite the fact that none of the personnel were familiar with this type of equipment prior to its arrival, adequate communication was provided for the duration of the fire. The estimated normal range of the portable equipment in use is fifteen miles airline under all conditions. It can be seen, therefore, that the results attained in this particular case were most satisfactory. The Lesser Slave Lake installation was later used to provide communication with the Edson-Edmonton circuit.

Upon completion of the season's operations, all the gasoline driven power plants at the various lookout points were overhauled. Each of these engines had had approximately five hundred hours running time, and they were all found to be in good condition. Extreme care had always been taken in connection with the quality of gasoline and oil used in these engines, and it was gratifying to find that this care had not been wasted.

All portable equipment was recalled to the Edmonton headquarters, upon completion of the fire season, for overhaul during the winter. In addition, a considerable amount of experimental work was carried out during the winter months.

A demonstration of the Forest Service's portable and mobile radio equipment was made for the benefit of the Lands, Parks and Forests Branch of the Department of Mines and Resources, Ottawa, the members of which were quite impressed by the efficiency and flexibility of this type of equipment.

A synopsis of the season's operations is given herewith, which shows quite clearly all important figures in connection with the costs of operation. It is of interest to note that the cost per message of messages handled by the radio communication system was not only lower than the previous year, but also considerably cheaper than other forms of communication.

OPERATING COSTS—RADIO SYSTEM, 1939-40			
Engine Time	1,321 hrs. 31 mins.		
Fuel Consumption:			
Gas	353 gals.		
Oil	57 2/3 qts.		
Traffic Handled:			
Messages	18,728		
Words	262,398		
Gasoline, 353 gals. @ 32.90 cents gal.	\$116.14		
Oil, 57 2/3 qts. @ 70.5 cents gal.	10.13		
Travelling expenses Radio Superintendent—20% of total chargeable to operations	102.18		
Lookoutmen's salaries—10% of total chargeable to radio operations	238.80		
		\$467.25	
Cost per message on above basis—2.4 cents.			
Depreciation of equipment—20% of \$8,282.00	\$1,656.40(2)		
		<u>\$2,123.65</u>	

Cost per message on above basis plus cost of depreciation (2)—11 cents.

NOTE: Equipment to be fully depreciated in five years.

Personnel.—The number of rangers employed by the Forest Service during 1939 remained practically the same as in former years. The Service was fortunate this year, however, in securing the appointment of practically all rangers early in the season and in advance of the spring fire hazard. The fire season broke early and the personnel, with the added assistance in many districts of better communication, was able to carry on to better advantage than in former years.



Jumping Pound Ranger Station Stable—Crowsnest-Bow River Forest Reserve

In spite of the fact that most of the Forestry men are seasonally employed, the Division has been able to secure the services of the same men from year to year in the same districts. This arrangement makes it possible for the rangers to anticipate the area of greatest hazard in the early spring and concentrate on it. If it were necessary to place new men in these districts, from time to time, it would be very difficult for them to carry on due to the fact that it would, in many cases, take them the best part of the season to become thoroughly familiar with the district over which they had jurisdiction.

The early fire season of 1939 was confined largely to the area north and west of the City of Edmonton, where the personnel achieved good success in suppression action. On other areas throughout the province the hazard was high in the early spring but, through the co-operation of the public and the efforts of the Service's personnel, the number and size of fires were kept to a minimum. A great deal of credit and praise is due to the rangers for their efforts in taking care of a short but very hazardous spring season.

During the autumn fire season the northern part of the province was comparatively free from fires, whereas the forest reserves along the eastern slope of the Rockies experienced an extreme hazard, with some fires getting out of control due to extremely high winds coupled with hot, dry weather. In these areas the Division was again fortunate in having men who have been with the Service from year to year and who were thoroughly familiar with the districts under their control. This situation made it possible for them to act quickly and effectively on many fires which might have assumed larger proportions had they been allowed to spread without immediate suppression action being taken.

It is hoped that when more funds are available, the Forestry may retain throughout the year at least a nucleus of personnel so that all improvements, especially communications, may be kept up throughout the winter and be in first class shape therefore at the beginning of the usual spring fire season.

Fire-fighting Equipment.—The amount of equipment available to the Service throughout the province is not entirely adequate. In the southern reserves a fair supply is on hand and is used very effectively by suppression crews. In the northern ones, where the men are compelled to cover vast areas, the amount of equipment is still far short of what is desirable. The result is that suppression action on fires must, in many cases, be restricted to the quality and quantity of tools which are available. It is hoped that conditions will improve to the extent that the Service may be able to supply the men in these districts with adequate fire-fighting equipment for their needs.

FOREST ADMINISTRATION

Provincial Forest Reserves.—This section of the Report deals with the timber disposed of from the forest reserves as apart from the timber disposed of from all other areas within the province. There were thirty-one active timber sales operating on the reserves during the year, with a total cut of slightly more than 5,000,000 feet, board measure, of lumber, and approximately 2,250,000 lineal feet of round timber, principally mine props.

The demand for lumber and mine props has increased in the southern part of the reserves, whereas, in the northern part, there has been same decline in this demand, principally due to lack of operations in the coal mines. The demand for timber throughout the entire reserves has been very similar to that of last year, and it is not expected that there will be a greater demand until such time as coal mines become more active, and the demand for lumber for building purposes increases.

TIMBER CUT UNDER PERMIT—ALBERTA FOREST RESERVES—FISCAL YEAR 1939-1940

	Cooking Lake	Cypress Hills	Crowsnest- Bow River	Clearwater	Brazeau- Athabaska	Totals
Number of permits	43	292	285	32	28	680
Fuelwood, dry (cords)	146	900	3,466	670	46	5,228
Fuelwood, green (cords)			24	40	6	70
Mine timber, dry (lineal feet)			263,970	39,000	177,823	480,793
Mine timber, green (lineal feet)			300	26,666		26,966
Mine Timber (pieces)						
Lagging (cords)			5			5
Lagging (lineal feet)			4,000	25,000		29,000
Fence posts	6,100	17,655	10,139		80	33,974
Sawlogs (F.B.M.)			245,650			245,650
Round timber (pieces)	2,750	14,110	13,296		576	30,732
Round timber (lineal feet)	11,834		21,963	1,700	75	33,572
Fence droppers (pieces)						
Telephone poles (pieces)						
Telephone poles (lineal feet)						
Mine ties (pieces)					4,027	4,027
Mine ties (lineal feet)				20,000		20,000
Tram ties (lineal feet)			140			140
Railway ties, green (pieces)					600	600

Provincial Lands.—During the latter part of the year 1938 there was a falling off in the demand for Alberta spruce lumber, with the result that operations were smaller during the year 1939 than for some previous years.

The number of active timber berths remained approximately the same, but the amount of material produced was smaller than that in 1938, which was in itself a small production year. A slight rise was noticeable in the demand for special timber permits by small operators. The amount of material obtained from these operations was, however, smaller than for the previous year. The number of timber permits issued was slightly higher than the previous year, but the amount of lumber produced showed a reduction of approximately 20 per cent. The number of railway ties produced during 1939 was approximately two-thirds of the amount produced in the previous year.

During 1939 the regulation allowing certain free timber to homesteaders was changed to meet the change in policy of the Government whereby leases replaced homesteads.

During 1938 a reduction was made in the dues on railway ties. It was found in 1939 that this reduction did not apply to operations conducted on damaged timber berths. The lowering of rates was taken care of on this type of berth.

By order in council, dated the thirtieth of October, 1936, a reduction in dues was granted in connection with sawn lumber. This was extended, from time to time, to June 30th, 1939, and during 1939 was further amended extending it to the thirtieth of June, 1940.

STATEMENT OF TIMBER OPERATIONS FOR 1939-40 ON PROVINCIAL LANDS
IN THE EDMONTON DISTRICT AND IN THE CALGARY, PEACE RIVER AND LETHBRIDGE LAND AGENCIES

(a) OPERATIONS ON LICENCE TIMBER BERTHS:

	Head Office, Edmonton District	Calgary Agency	Peace River Agency	Lethbridge Agency	Totals
Number of active operations	35	8			43
Lumber, feet, board measure	26,863,046	5,732,827			32,595,873
Railway ties	48,453	1,393			49,846
Round timber (including mine timber), lineal feet	9,862	1,725,765			1,735,627
Lath	1,220,925				1,220,925
Cordwood, cords	108	128½			236½

(b) OPERATIONS ON TIMBER PERMIT BERTHS:

	Head Office, Edmonton District	Calgary Agency	Peace River Agency	Lethbridge Agency	Totals
Number of active operations	245	20			265
Lumber, feet, board measure	60,250,247	6,421,920			66,672,167
Railway ties	502,781	11,201			513,982
Round timber (including mine timber), lineal feet	60,872	71,090			131,962
Lath	2,721,960				2,721,960
Shingles	209,750				209,750
Cordwood, cords	263	153			416

(c) OPERATIONS UNDER SPECIAL TIMBER PERMITS:

(Sec. 40 (h) of the Timber Regulations)

	Head Office, Edmonton District	Calgary Agency	Peace River Agency	Lethbridge Agency	Totals
Number of active operations	197	43			240
Lumber, feet, board measure	3,445,165	687,586			4,132,751
Railway ties	131,083	19,985			151,068
Round timber (including mine timber), lineal feet	94,398	42,120			136,518
Lath	116,300				116,300
Shingles	130,000	17,500			147,500
Cordwood, cords	210				210

(d) TIMBER PERMITS ISSUED AUTHORIZING THE CUTTING OF
MATERIAL SHOWN HEREUNDER:

	Head Office, Edmonton District	Calgary Agency	Peace River Agency	Lethbridge Agency	Totals
Number of permits issued	1,166	157	806	19	2,148
Lumber, in feet, board measure	6,193,906	219,121	5,133,671	1,500	11,548,198
Railway ties	33,278		5,126		38,404
Piling, lineal feet	28,466		10,240	144	38,850
Mining timber, lineal feet	94,060	411,100			505,160
Telegraph and telephone poles	2,333	2,700	109,030		114,083
Building logs and culvert timber, lineal feet	52,142	36,026	74,738	90	162,996
Fence rails	432,130	24,365	647,805	600	1,104,900
Fence posts	133,899	26,010	163,170	300	323,379
Fence droppers	1,200				1,200
Roof poles	95,017	4,400	128,360	175	227,952
Fuelwood, cords	7,210	1,501	1,586	73	10,370
Nine ties, number	400				400
Guard rails	3,150				3,150
Shingles	306,000	10,000	39,000		355,000
Shingle bolts, cords	61½	30	253		344½
Lath	200,000				200,000
Lath bolts, cords		135			135

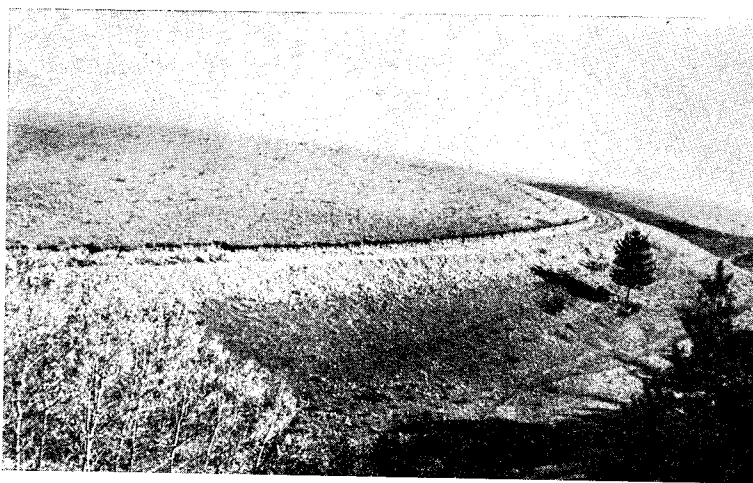
SUMMARY OF TIMBER OPERATIONS ON PROVINCIAL LANDS, 1939-40

	Licensed Timber Berths	Permit Timber Berths	Provincial Lands Timber Permits		Forest Reserve		Totals
			Special (Sec. 40h)	Other Permits	Timber Sales	Timber Permits	
Number of active operations	43	265	240	2,148	31	680	3,407
Lumber (feet, board measure)	32,595,873	66,672,167	4,132,751	11,548,198	5,056,737	245,650	120,251,376
Railway ties	49,846	513,982	151,068	38,404	26,004	600	779,904
Piling (lineal feet) .....	.....	.....	.....	38,850	.....	.....	38,850
Mine timber (lineal feet)	1,735,627	131,962	136,518	505,160	2,106,363	541,759	5,157,389
Telegraph and telephones poles (lineal feet) .....	.....	.....	.....	114,083	.....	.....	114,083
Building logs and culvert timber (lineal feet) .....	.....	.....	.....	162,996	.....	66,304	229,300
Fence rails .....	.....	.....	.....	1,104,900	.....	.....	1,104,900
Fence posts .....	.....	.....	.....	323,379	.....	33,974	357,353
Fence droppers .....	.....	.....	.....	1,200	.....	.....	1,200
Root poles .....	.....	.....	.....	227,552	.....	.....	227,552
Firewood (cords)	236 1/2	416	210	10,370	246	5,298	16,776 1/2
Mine ties (number) .....	.....	.....	.....	400	.....	8,349	8,749
Guard rails .....	.....	209,750	147,500	355,000	.....	.....	3,150
Shingles .....	.....	1,220,925	2,721,960	344 1/2	.....	.....	712,250
Shingle bolts (cords) .....	.....	.....	.....	116,300	200,000	.....	344 1/2
Lath bolts (cords) .....	.....	.....	.....	135	.....	.....	4,259,185
Tram ties (lineal feet) .....	.....	.....	.....	.....	.....	140	135
Number of inspection reports submitted by timber inspectors .....	.....	.....	.....	.....	.....	.....	140
Number of timber seizures made .....	.....	.....	.....	.....	.....	.....	2,254
							170

GRAZING

In the report for the previous year—for the season of 1938—mention was made of a reduced amount of forage on the forest reserves due to a cycle of dry years. For 1938 it was necessary, therefore, to reduce the carrying capacity on various ranges, especially throughout the southern reserves, with a view to bringing back much needed grass cover and better forage conditions.

In the season of 1939 it was possible to again raise carrying capacities in most districts due to the increased forage, brought about by normal rainfall in 1938 and by reduction in the number of stock grazed during that season. The spring of 1939 was not a favourable one for grazing purposes due to the fact that the early part of that season was extremely dry and new grass did not take hold until heavy rains occurred in the beginning of June. These heavy rains completely changed the situation and, for the balance of the season, forage on all areas of the reserves was ample for the requirements of the stock placed thereon.



Cypress Hills Forest Reserve—Grayburn Coulee Road

Since the beginning of grazing on forest reserves it has been the policy of the Department to foster the formation of stock associations where a number of permittees are grazing stock together. During the season of 1939 one new association was formed, namely, the Elbow Stock Association, grazing stock on the Elbow River valley. Arrangements were going forward at the same time for the formation of two other associations in the Crowsnest Forest, to be completed early in the spring of 1940. On the Clearwater Reserve the Moose Ridge Stock Association, which had carried on grazing in the Clearwater valley for a period of two years, was compelled to disband due to the shortage of stock in this particular part of the country.

Stock coming off the range at the close of the 1939 season was in excellent condition, and it is expected that the demand for grazing during the season of 1940 will surpass that of any recent year.

GRAZING STATEMENT—ALBERTA FOREST SERVICE, 1939-40

Forest	No. of Permits	No. of Horses	No. of Cattle	No. of Sheep
Cypress Hills	60	470	2,108	.....
Crows-nest-Bow River	250	1,318	20,208	6,847
Clearwater	42	345	.....	.....
Brazeau-Athabaska	130	598	70	36
TOTALS	482	2,731	22,386	6,883

COMPARATIVE STATEMENT, GRAZING—ALBERTA FOREST SERVICE

Grazing year	1931	1932	1933	1934	1935	1936	1937	1938	1939	Totals	Average
No. of permits	456	606	493	517	533	497	529	437	482	4,550	506
No. of cattle	15,041	20,086	20,230	22,557	25,097	23,407	18,921	22,280	22,386	190,005	21,112
No. of horses	3,417	3,377	3,185	2,541	2,207	2,441	3,418	3,024	2,731	26,341	2,927
No. of sheep	4,379	7,465	6,705	3,078	4,114	5,443	3,174	4,791	6,883	46,032	5,114

IMPROVEMENTS

The amount of new construction, such as buildings, telephone lines, roads, trails and other structures, has been curtailed for a number of years due to the lack of available funds. From year to year some progress has been made in a small way with the reconstruction of certain buildings which have required renewing due to age and long years of use. Certain additions have been made to telephone lines, roads and trails, but, for the most part, the staff has been kept busy maintaining the large number of improvements already located on the reserves.

During the season of 1939 the amount of new construction was again curtailed for the same reason, but it was found possible, subject to the limited means at the disposal of the Service, to carry on certain new improvement projects.

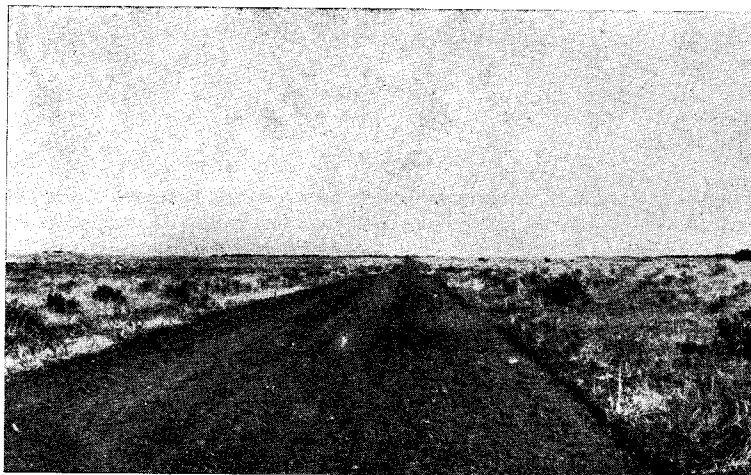
On the Crowsnest forest work was continued on a road leading up Byron Creek to connect the mining towns in the Crowsnest Pass with areas of valuable timber in the Carbondale and Castlemount River watersheds to the south.

On the Bow River Forest it was found necessary to rebuild one of the ranger station stables at the Jumping Pound Ranger Station. This building, being constructed entirely by the Forestry's own personnel, is a credit to the Service. On the same forest, the communication system was extended south of the town of Canmore by constructing a telephone line from Spray Lakes to Kananaskis Lakes. This connection had been urgently required for some years resulting from the prevalence of fire in the Kananaskis Lakes area, principally due to lightning, and the necessity of obtaining fast communication between that point and the outside for securing men and supplies for fire suppression.

On the Brazeau-Athabaska Forest another extension was made to the telephone communication system by the construction of a telephone line connecting the Brazeau and Athabaska Divisions of this forest from Coalspur to Entrance. A great deal of assistance was rendered to the Service in the construction of this telephone line, and that of the Kananaskis Lakes district, by the establishment of the National Forestry Training camps at these two points. The work of these young men made it possible for the Forest Service's limited staff to carry out these rather large projects.

In the Brazeau Division of the Brazeau-Athabaska Forest a new location was selected for the Greasebone Ranger Station, and a new house was constructed just north of Cadomin, adjacent to the new highway which connects the mining camps in this area. The location of this new ranger station makes it more convenient for the general public of the mining camps to contact the Forestry rangers, not only for the reporting of fires, but in connection with their applications for various natural resources.

The establishment of a large National Forestry Training camp in the Cypress Hills Forest, augmented by road building machinery, made it possible for the Service to extend and improve roads throughout this reserve. These roads are not only an asset for travelling purposes, but are designed primarily as fire guards throughout the district.



Cypress Hills Forest Reserve—fireguard road

The beginning of the 1939 season, with its dry weather and resultant fire hazard, made it very difficult for the personnel to carry out much needed maintenance work on projects in the reserve. At the beginning of the season most of the personnel came on duty at approximately the same time as the fire hazard started. In many cases repairs had to be rushed in connection with telephone lines broken by winter weather, leaving a large amount of work to be done during the balance of the year. Fortunately, the summer season was free from fire hazard in most of the reserve area, and the personnel was successful in putting all improvements in good shape before the usual fall hazard arrived.

ROCKY MOUNTAIN FOREST RESERVE SHOWING ORGANIZATION IN 1939-40

Number of ranger districts	30
Number of rangers	30
Number of assistant rangers	24
Number of lookoutmen	15
Number of telephone operators	1
Area (square miles)	14,236
Length of roads (miles)	681
Length of trails (miles)	3,218 $\frac{3}{4}$
Length of telephone lines (miles)	934 $\frac{1}{4}$
Number of buildings	246

LIST OF BUILDINGS

Houses	24	Machine sheds	9
Cabins	82	Granaries	1
Lookout cabins	13	Garages	4
Stables	37	Henhouses	6
Bunkhouses	5	Outbuildings	14
Storehouses	17	Woodsheds	6
Blacksmith shops	4	Workshops	4
Haysheds	2	Speeder sheds	7
Boat houses	1	Lookout towers	3
Caches	7		
Number of corrals			50
Number of enclosed pastures			64
Number of grazing divisions			59
Number of grazing permittees			424
Number of stock grazed			27,386
Number of stock associations			14
Number of timber sales			39
Number of miscellaneous use permits			180
Number of grazing use permits			67

NEW CONSTRUCTION PROJECTS:

IMPROVEMENT STATEMENT

Forest	Houses	Garages, Sheds, etc.	Fences	Fields (breaking in acres)	Water Supply Systems	Barns and Stables	Telephones (miles)	Corrals	Bridges	Look-out Towers	Trails (Miles)	Cabins	Fireguard Roads (Miles)	Tourist Stoves	Miscellaneous
Cypress Hills	...	...	1	...	1	...	...	...	...	...	...	...	...	...	2
Crownest	...	1	...	...	...	2	3	...	...	...	...	1	...	...	1
Bow River	...	2	...	...	...	...	...	...	...	...	...	1	...	...	1
Clearwater	...	1	...	...	...	...	...	...	...	...	2	1	...	...	...
Brazeau	1	...	1	...	...	...	...	1	...	...	1/2	1	...	...	1
Athabaska	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS	2	4	2	...	1	2	3	1	...	...	2 1/2	3	...	...	5

MAINTENANCE PROJECTS:

Forest	Houses	Cabins	Barns and Stables	Telephones (Miles)	Trails (Miles)	Roads (Miles)	Fences	Corrals	Water Supply Systems	Garages, Sheds, etc.	Look-out Towers and Cabins	Grounds	Hay Meadows & Pastures	Fertiles	Miscellaneous
Cypress Hills	1	1	1	19	156 1/2	61	2	...	1	2	...	2	...	...	1
Crownest	12	3	6	158 1/2	60	60	19	4	2	7	...	10	4	...	3
Bow River	7	8	5	131	648 1/2	78 1/2	21	6	3	8	...	17	3	...	1
Clearwater	3	7	...	176	622 1/4	2	5	1	1	2	...	...	...	...	3
Brazeau	5	6	1	163	265	25 1/2	6	1	1	3	...	6	...	...	...
Athabaska	4	9	1	60 1/2	351 1/4	25 1/2	7	3	1	...	...	3	...	...	2
TOTALS	32	34	14	708	2,043 3/4	227	60	15	9	22	...	38	7	...	10

IMPROVEMENTS—STATEMENT OF MAN-DAYS WORKED

NEW CONSTRUCTION PROJECTS:

Forest	Houses	Garages, Sheds, etc.	Fences	Fields (breaking) in acres	Water Supplies	Telephones (miles)	Corrals	Barns and Stables	Bridges	Look-out Towers	Roads (miles)	Trails (miles)	Cabins	Fireguard Roads (miles)	Tourist Stoves
Cypress Hills .....	...	27	14	...	9	...	...	...	...	...	9	...	...	...	...
Crowsnest .....	...	3 1/2	...	...	...	101	...	97	...	...	30 1/2	9	20	...	...
Bow River .....	...	19	...	...	...	...	...	...	...	...	...	...	6	...	...
Clearwater	75	...	5	...	...	10	3	...	...	...	...	5	49	...	...
Brazau	28 1/2	...	...	...	...	83	1 1/2	...	...	...	...	3	...	...	...
Atiabaska .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS	103 1/2	49 1/2	19	...	9	194	4 1/2	97	...	...	39 1/2	17	75	...	...

MAINTENANCE PROJECTS:

Forest	Houses	Cabins	Barns and Stables	Telephones (miles)	Trails (miles)	Roads (miles)	Fences	Corrals	Water Supplies	Garages, Sheds, Etc.	Look-out Towers and Cabins	Grounds	Hay Meadows & Pastures	Ferries	Miscel- laneous
Cypress Hills	38	6 1/2	4	28	26 1/2	26 1/2	4 1/2	25	3	6 1/2	...	26	...	...	4 1/2
Crowsnest	72 1/2	8	22	236 1/2	70	309 1/2	157	25	2 1/2	9	...	84	41 1/2	...	20
Bow River	46	27 1/2	12 1/2	329	375	278	238 1/2	52 1/2	18 1/2	37 1/2	...	67 1/2	3 1/2	...	33
Clearwater	23	11	2	184	307	24	67	13	2	2	...	...	...	24	...
Brazau	38	10 1/2	13 1/2	211	157	13 1/2	43 1/2	3	1 1/2	13 1/2	6	32 1/2	...	...	...
Atiabaska	2	31 1/2	1	76 1/2	230 1/2	10	38 1/2	11	1/2	20 1/2	...	26 1/2	...	...	3 1/2
TOTALS	219 1/2	95	55	1,065	1,139 1/2	648	549	104 1/2	27	89 1/4	6	236 1/2	45	24	61

PUBLICITY

From year to year attention has been drawn in the Annual Reports of the Forest Service to the necessity of carrying on a publicity campaign for the education of the general public in the prevention and suppression of fires. It is regrettable that lack of funds has kept such a campaign to the absolute minimum. It is felt that if the general public could be made fire conscious and brought to realize the vast wastage and excessive costs of fires, this form of destruction would soon be reduced to an absolute minimum.

During the past season the Forestry ranger personnel has contacted on their patrols as many people as possible, explaining the danger of fires, assisting people with the burning of slash and other debris, and in a general way making the public conversant with the problem in hand. The men of the Service have found most of the public extremely helpful and careful in the handling of fire, but there are always some in each community who disregard every warning, with resultant loss not only to their own district but to the province as a whole. It has been found necessary to bring some of these offenders into court, which may or may not have had a beneficial effect on the actual persons concerned.

NURSERY AND TREE DISTRIBUTION

Nursery.—The growing of trees from seed at the Forestry Nursery at Oliver has been carried out with pronounced success. Due to the season of 1939 being much more favourable from a moisture standpoint, losses were not as great as during the two previous years. In order to avoid such losses which occur in dry seasons it will be necessary to install an overhead sprinkling system at this point.

Plans have been made to start the growing of trees from seed at the Lethbridge sub-nursery. The soil at this point is not of good quality, but an irrigation system makes it possible for this nursery work to be carried on. Furthermore, the growing demand for transplants necessitates the establishment of seed beds, as well as transplant areas, in the southern part of the province.

Young coniferous tree transplants were forwarded from Oliver to the subsidiary nurseries at Fort Saskatchewan and Lethbridge. These have been from 2-0 stock, and the small trees have established a good root system and are ready for distribution at the end of two years in the transplant areas.

It is worthy of note that continuous success has been experienced with some of the exotic species tried out at Oliver, especially with the oaks. A few oaks, from Alberta-produced acorns, are now in evidence, the seed having been picked from trees on the grounds at Oliver during the fall of 1938.

It has also been possible to secure requirements of Siberian larch seed from cones picked on the grounds, avoiding the necessity of importing this seed from Siberia where it is especially hard to obtain. This source is not and has not been dependable since the start of the Sino-Japanese war.

The deciduous or broad-leaved trees do not need the same amount of shade that young coniferous seedlings require. The planting of seeds from the former species is therefore possible in the transplant areas, both at Oliver and at Lethbridge. This conserves the limited seed bed space for the growing of conifers and will greatly help in meeting requirements of evergreens.

The applications for trees, both of coniferous and deciduous stock, continue to increase from year to year. Very encouraging reports from different parties to whom trees have been supplied are on file. In some cases as high as 95 per cent of those distributed are reported to be doing well. The fact that trees can be grown on the prairies, offering shelter from wind and storms, is, needless to say, a great incentive to farmers to secure such benefits for their land.

Numerous exotic species have been tried out. It is a pleasure to be able to report that red pine (*pinus resinosa*), shagbark hickory (*carya ovata*), and black walnut (*juglans nigra*) are doing very well. It is, however, a little early to say as to whether or not these species will do as well when distributed through the province as they have done in nursery beds and transplant areas.

STATEMENT OF SEEDING DONE AT THE OLIVER NURSERY IN 1939

21 lineal feet	Norway spruce (<i>Picea excelsa</i>)
100 "	White spruce (<i>Picea glauca</i>)
5 "	Sitka spruce (<i>Picea sitchensis</i>)
10 "	Siberian larch (<i>Larix sibirica</i>)
22 "	European larch (<i>Larix europaea</i>)
120 "	Lodgepole pine (<i>Pinus murrayana</i>)

Tree Distribution.—The following species and quantities were given out from Oliver in the spring of 1940:

Transplants:		
White spruce (<i>Picea glauca</i>)	48,892	
Colorado spruce (<i>Picea pungens</i>)	5,085	
Norway spruce (<i>Picea excelsa</i>)	3,592	
Green ash (<i>Fraxinus pennsylvanica</i>)	4,297	
Red oak (<i>Quercus rubra</i>)	4,017	
Bur oak (<i>Quercus macrocarpa</i>)	382	
Western white oak (<i>Quercus alba</i>)	950	
European larch (<i>Larix europaea</i>)	676	
Siberian larch (<i>Larix sibirica</i>)	3,070	
Douglas fir (<i>Pseudotsuga mucronata</i>)	2,197	
Lodgepole pine (<i>Pinus murrayana</i>)	14,545	
		87,703
Cuttings:		
Laurel-leaf willow (<i>Salix pentandra</i>)	12,685	
Golden willow (<i>Salix vitellina</i>)	13,075	
Poplar (<i>Populus</i>)	18,455	
		44,215
Ornamental Species:		
Mountain ash (<i>Pyrus americana</i>)	6	
Black walnut (<i>Juglans nigra</i>)	52	
Red pine (<i>Pinus resinosa</i>)	1,000	
Ladoga pine (<i>Bugnet—Pinus sylvestris</i>)	25	
Roses	6	
Red alder (<i>Alnus oregona</i>)	36	
Lilac (<i>Syringa japonica</i>)	8	
Flowering Almond (<i>Prunus triloba</i>)	18	
Cedar (<i>Thuja occidentalis</i>)	110	
Basswood (<i>Tilia americana</i>)	12	
Spirea	24	
Cottoneaster (<i>Acutifolia</i>)	6	
Honeysuckle (<i>Lonicera ciliosa</i>)	24	
Weeping birch	6	
Native hawthorn (<i>Crataegus</i>)	12	
Elderberry	6	
		1,351
		133,269

The following species and quantities were given out from Lethbridge in the spring of 1940:

Transplants:		
White spruce (<i>Picea glauca</i>)	1,970	
Green ash (<i>Fraxinus pennsylvanica</i>)	2,640	
Scotch pine (<i>Pinus sylvestris</i>)	420	
Lodgepole pine (<i>Pinus murrayana</i>)	2,600	
		7,630

NATIONAL FORESTRY PROGRAMME

During the years of 1937 and 1938 the Youth Forestry Training Project was carried on under the supervision of the Alberta Forest Service. One large camp of sixty young men was located on the Highwood River in 1937, while in 1938 thirty-five men were placed in this main camp and the balance were distributed as trainee assistants to rangers throughout the reserves.

In 1939 the Youth Forestry Training Project was supplanted by the National Forestry Programme. Under this scheme it was possible for the Alberta Forest Service to take one hundred and thirty young men into camps, and as trainee

assistants to the rangers in various parts of the province, giving them a very thorough training in different phases of forestry work.

The main camp was moved to the Cypress Hills Forest and thirty trainees placed therein. At this point it was possible to carry on intensive silvicultural work in the way of seeding, thinning and the general practice of silviculture. In addition to this it was possible to give them a general training in other phases of forestry work.

The balance of the trainees was spread through the other reserves. It was also possible to place three 10-man units on the Northern Alberta Fire Ranging Division, one in the vicinity of Drayton Valley, one near Lesser Slave Lake and the third in the Peace River area. On the Crowsnest-Bow River Forest twenty young men were assigned as trainee assistant rangers. In addition, one 10-man unit was used in various parts of the reserve in connection with new construction projects and with different types of work which were being carried on. Two 10-man units were placed on the Clearwater Forest Reserve. By moving them from district to district they were given a thorough training in all lines of work. On the Brazeau-Athabaska Forest one 10-man unit was placed in camp and used in a similar way to other smaller units. At the same time ten trainee assistant rangers were placed on various districts through the reserve to work in co-operation with the rangers, and received their training through the practical experience secured in the company of these men. The same plan was followed wherever trainee assistant rangers were placed.

During the season a technically trained forester was used for giving instruction in the theory of forestry in its many forms. He moved from camp to camp and from group to group throughout the province giving each section a course of lectures designed to supply the young men with a thorough knowledge of forestry in its different phases. In addition to the addresses made by this forester, lectures in mimeographed form were distributed to the trainees. Good use of their leisure hours and rainy days was made by the study of these lectures, which was carried on under the supervision of qualified rangers.

At the conclusion of the season all trainees through the province were classified according to their ability and the success they had attained by making themselves efficient in the various tasks which had been allotted to them. Those ranking the highest were recommended to prospective employers. The result of this programme was that many secured employment which would otherwise have been impossible, due to lack of training.

MILEAGE TRAVELLED BY EMPLOYEES OF THE ALBERTA FOREST SERVICE
FISCAL YEAR 1939-40

Divisions	Foot	Saddle	Driving	Speeder	Auto	Canoe	Rowboat	Motorboat	Plane	Railway	Other	Totals
Northern Alberta Forest District	16,054 ³ / ₄	40,614 ¹ / ₄	14,589	20,519	73,625	1,395	907	7,472 ¹ / ₂	955	10,199	407	186,737 ¹ / ₂
Crowsnest-Bow River Forest	3,260	28,808	3,154	.....	55,500	.....	.....	10	.....	337	15	91,084
Clearwater Forest	4,016 ¹ / ₂	12,134	1,342	830	23,590	.....	.....	16	.....	115	.....	42,043 ¹ / ₂
Brazeau-Athabaska Forest	3,579	13,996	715	2,356	5,397	.....	.....	.....	.....	2,842	.....	28,885
Cypress Hills Forest .....	.....	2,056	.....	.....	1,824	.....	.....	.....	.....	.....	.....	5,880
TOTALS	26,910 ¹ / ₄	97,608 ¹ / ₄	19,800	23,705	159,936	1,395	907	7,498 ¹ / ₂	955	13,493	422	352,630

Mining Lands Administration

REPORT OF THE SUPERINTENDENT OF MINING LANDS,
J. W. HAMILTON

The mining industry which commands the greatest interest in the province is still the exploration, development and production of petroleum and natural gas, and the prospects for discovery of new fields were never better than at present. Coal mining, however, is still the major mining industry although the province obtains a far greater revenue from petroleum and natural gas than from coal.

The output of coal was slightly greater during the calendar year of 1939 than that of the previous year whilst production of petroleum showed an increase of nearly a million barrels in comparison with the previous year. The consumption of natural gas remained comparatively steady although somewhat less than last year.

The quantities of non-metallic minerals, produced in the province during the calendar year 1939, were coal 5,518,105 tons, petroleum 7,594,411 barrels, natural gas 23,286,434 thousands of cubic feet, salt 3,322 tons. The structural minerals produced were cement 377,846 barrels, lime 11,907 tons, sand and gravel 853,680 tons, stone 3,201 tons, and shale used for making bricks 27,236 tons.

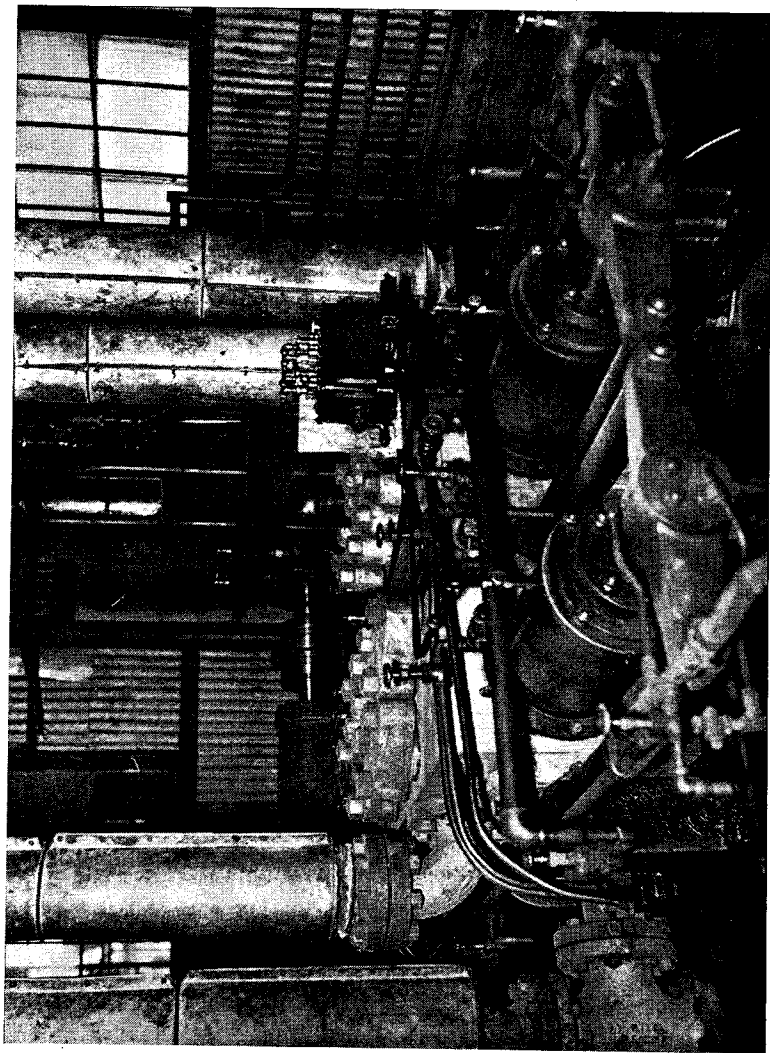
The total value of minerals produced was approximately \$26,663,191, of which coal represents \$14,454,328, petroleum \$9,289,580, natural gas *\$931,457, salt \$37,526, and the structural materials—clay products \$461,079, cement \$744,357, lime \$105,165, sand and gravel \$611,666, stone \$15,045, and miscellaneous \$12,988.

Mineral rights, solid, liquid and gaseous, the property of the Crown, are not sold but are disposed of by lease, reservation, permit or grant for limited periods of time. The Mining Lands Division is responsible for the administration of regulations governing these rights on both provincial and school lands. Revenue is obtained from fees, rentals, bonuses and royalties and during the fiscal year a total of \$1,208,859.01 was received.

Greater activity was shown under the regulations for the establishment of reservations for geological examination of large areas and during the year 475,881 acres were placed under reservation, being approximately 50 per cent greater than during the preceding year. A person or company acquiring rights under these regulations must, in order to procure leases of the rights thought to be most favourable for the recovery of oil and gas, file with the Department a copy of all geological reports with accompanying maps.

The number of applications for mineral rights which were made at the offices of the mining recorders at Edmonton, Calgary, Lethbridge and Peace River during the year was 1,094 and these necessitated the preparation and establishment of a similar number of files in this Division. A large number of requests as to the availability of lands for petroleum and natural gas leases was made by personal application at the office and by correspondence, also numerous enquiries were received regarding all classes of mining rights. Some of the latter required considerable investigation and preparation. The Division dispatched, during the year under review, a total of 25,086 letters.

*Based on a well-head valuation of 4 cents per Mcf.



Hot oil pumps, Gas and Oil Products Absorption Plant
Photograph by Lane's Studio, High River, Alberta

The natural resources of Alberta were transferred from the Dominion Government to the control of the Government of Alberta on October 1st, 1930, and the following tabulation shows the numbers and acreages of the various leases issued from that date to March 31st, 1940.

Type of Lease	Active at date of transfer	Issued	Reinstated	Divided	Cancelled	Renewed	Active at March 31st, 1940
Petroleum and natural gas, provincial lands.....	16,899	7,492	37	242	19,702	140	4,828
Petroleum and natural gas, school lands.....	1,964	929	7	21	2,435	1	485
Petroleum and natural gas, crown reserve.....	5	20	.....	.....	25	.....	.....
Coal, provincial lands.....	620	354	1	3	513	108	357
Coal, school lands.....	60	25	.....	.....	46	7	32
Quarrying.....	45	46	.....	.....	44	.....	47
Quartz mining.....	4	.....	.....	.....	.....	.....	4
Salt.....	1	1	.....	.....	1	.....	1
Bituminous sands.....	4	2	.....	.....	4	.....	2
Miscellaneous.....	1	3	.....	.....	1	.....	3
Dredging.....	32	6	.....	.....	38	.....	.....
TOTALS.....	19,635	8,878	45	266	22,809	256	5,759

ACREAGE CONTAINED IN ABOVE LEASES

Type of Lease	Active at date of transfer	Issued	Reinstated	Cancelled	Renewed	Active at March 31st, 1940
Petroleum and natural gas, provincial lands..	2,263,076	1,517,540	9,456	2,717,281	19,714	1,053,077
Petroleum and natural gas, school lands.....	191,726	141,045	1,183	254,898	420	78,636
Petroleum and natural gas, crown reserve.....	6,160	22,361	.....	28,721	.....	.....
Coal, provincial lands.....	236,984	113,538	40	170,207	75,965	104,390
Coal, school lands.....	9,570	2,393	.....	5,803	1,464	4,696
Quarrying.....	1,675	578	.....	966	.....	1,287
Quartz mining.....	182	.....	.....	.....	.....	182
Salt.....	200	6,721	.....	200	.....	6,721
Bituminous sands.....	3,952	2,063	.....	5,451	.....	564
Miscellaneous.....	3,560	323	.....	10	.....	3,873
TOTALS.....	2,717,085	1,806,762	10,679	3,183,537	97,563	1,253,426
Dredging (in miles).....	145	22	.....	167	.....	.....

STATEMENT OF BUSINESS TRANSACTED, 1939-40
PETROLEUM AND NATURAL GAS

	Number	Acres
Leases issued on provincial lands.....	870	222,687.83
Leases cancelled and relinquished on provincial lands.....	1,256	232,417.21
Leases reinstated on provincial lands.....	37	9,455.77
Leases issued on school lands.....	106	24,430
Leases cancelled and relinquished on school lands.....	131	24,213.75
Leases reinstated on school lands.....	7	1,183
Reservations granted.....	23	475,881
Reservations cancelled and relinquished.....	21	363,012
Fees, rentals and bonuses collected.....		\$377,805.30
Royalties collected.....		523,306.31
TOTAL.....		\$901,111.61

COAL

	Number	Acres
Leases issued on provincial lands.....	20	1,587
Leases cancelled and relinquished on provincial lands.....	24	302.55
Leases reinstated on provincial lands.....	1	40
Leases issued on school lands.....	1	29.88
Leases cancelled and relinquished on school lands.....	1	.....
Domestic permits issued.....	22	.....
Fees and rentals collected.....		\$116,187.52
Royalties collected.....		176,615.53
TOTAL.....		\$292,803.05

DEPARTMENT OF LANDS AND MINES

QUARRYING

	Number	Acres
Leases issued	9	River bars
Leases cancelled and relinquished	11	212.75
Sand, stone and gravel permits issued	17	
Fees and rentals collected	\$ 1,335.15	
Royalties collected	4,217.18	
TOTAL	\$ 5,552.33	

DREDGING

	Number	Area in Miles
Leases issued		
Leases cancelled and relinquished	2	9.50

MISCELLANEOUS

	Number	Acres
Bituminous sands leases issued	1	255.10
Bituminous sands leases cancelled	1	1,807.70
Permits to collect bitumen renewed	1	
Quartz mining claims granted	2	
Quartz mining certificates of work issued	1	
Powers of Attorney (quartz) filed		
Placer claims granted	20	
Powers of Attorney (placer) filed	7	
Bar-diggings permits issued		
Fees, rentals and royalties collected	\$9,392.02	

ASSIGNMENTS REGISTERED, 1939-40

Nature	Number
Petroleum and natural gas, provincial lands	567
Petroleum and natural gas, school lands	78
Coal, provincial lands	33
TOTAL	678

PETROLEUM AND NATURAL GAS

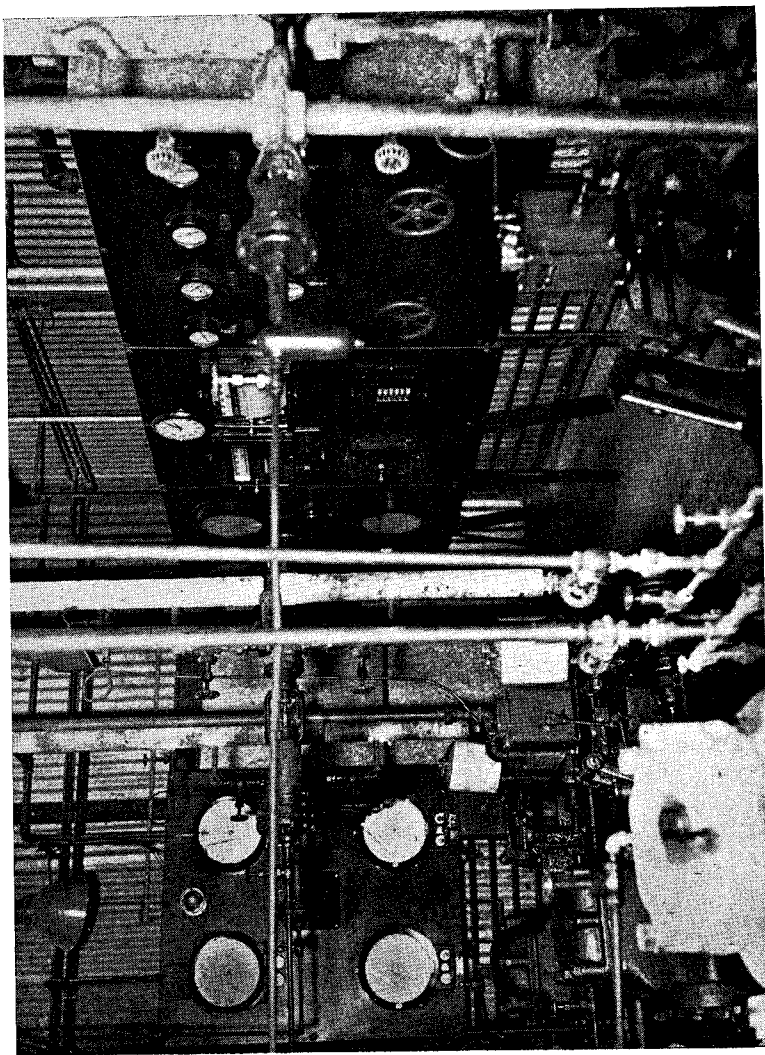
Development of Leases.—Provision is made in the regulations for approved expenditures incurred in actual development of petroleum and natural gas rights, acquired under lease or reservation, to be accepted in satisfaction of rentals which should otherwise have been paid in cash. During the fiscal year under review, rentals due the Crown amounting to \$306,596.53 were satisfied from such expenditures and so reduced the revenue of the Division by that amount. The total rental revenue received in cash was \$377,805.30, which, added to the expenditures accepted in lieu of rental, makes a total of \$684,401.83 chargeable to fees, rentals and bonuses.

Disposal by Public Tender.—Bonuses amounting to \$4,401.17 were received during the fiscal year under the provision of regulations for the disposal by auction of petroleum and natural gas rights formerly comprised in cancelled leases. Of this amount, \$4,317.57 was bid and paid on provincial lands' rights and \$83.60 on school lands' rights.

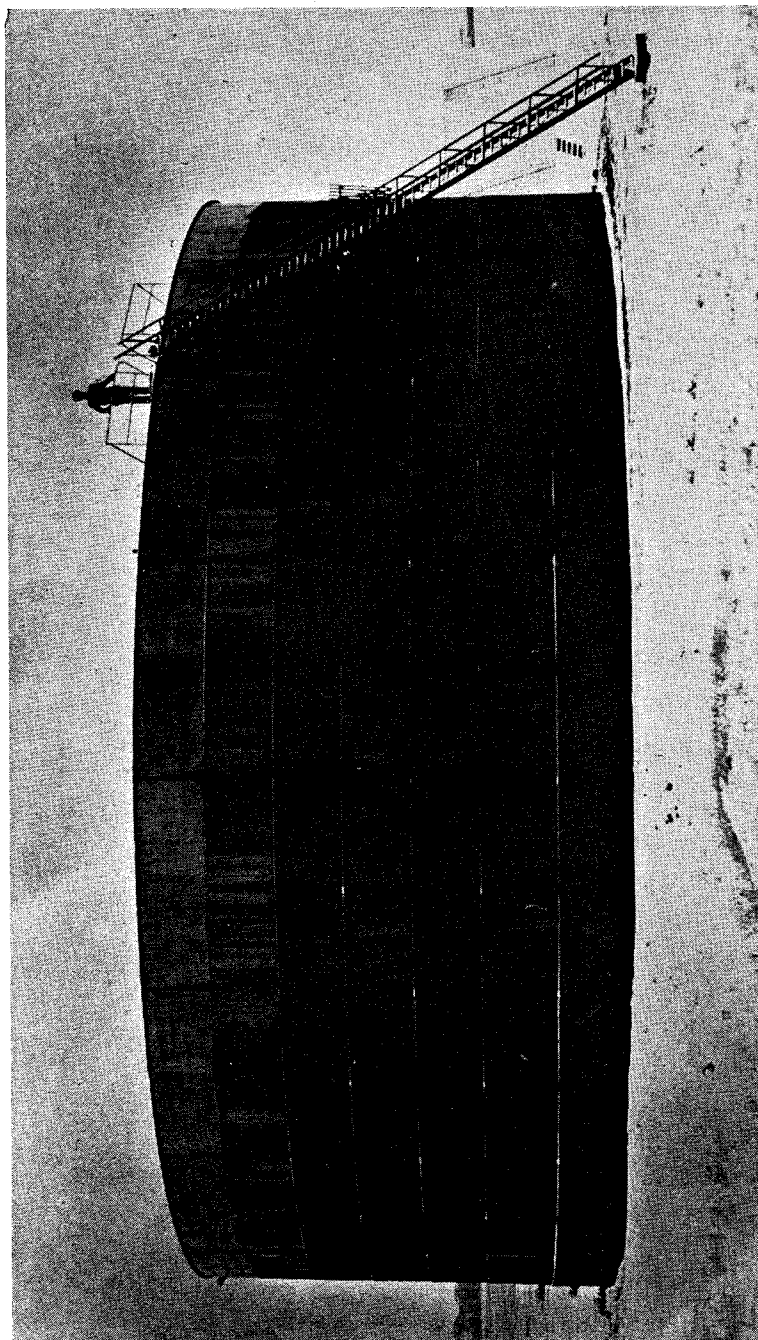
Number and Area of Leases.—During the year 976 petroleum and natural gas leases were issued covering an area of 247,118 acres, of which 870, comprising 222,688 acres, represented rights on provincial lands and 106, comprising 24,430 acres, rights on school lands.

The province issued since October 1st, 1940 a total of 8,441 leases, comprising 1,681,147 acres, and the Department of the Interior at Ottawa transferred to the province 18,868 leases, comprising 2,460,962.48 acres.

Of these leases, 5,313 are now active, comprising an area of 1,131,713 acres, of which leases on provincial lands total 4,828 and those on school lands 485, containing respectively 1,053,077 and 78,636 acres.



Part of control room, Gas and Oil Products Absorption Plant
Photograph by Lane's Studio, High River, Alberta



Gas and Oil Products, 80,000 barrel tank for field storage

Photograph by Lane's Studio, High River, Alberta

Petroleum and Natural Gas Reservations.—Regulations governing the reservation for geological examination of petroleum and natural gas rights, the property of the Crown, were established by Order in Council, No. 1026/37, dated the 7th day of September, 1937. At the beginning of the period under review there were 20 reservations in force covering 314,375 acres. During the year 23 additional reservations were made, comprising 475,881 acres and 21 reservations terminated covering an area of 363,012 acres. There are now active under these regulations 22 reservations on 427,274 acres.

COAL

Leases are now granted only for the extension of existing operations or for small mines where the local market cannot be economically supplied from existing mines in the vicinity. In this fiscal year, 25 applications were considered and 20 leases issued comprising 1,587 acres. There are now active 389 coal leases comprising 109,086 acres.

During the current fiscal year the following quantity of coal, subject to Crown royalty, was mined:—

	Tons
Provincial lands' leases	2,583,447
School lands' leases	190,949
Coal lands' and mineral sales	650,107
TOTAL	3,424,503

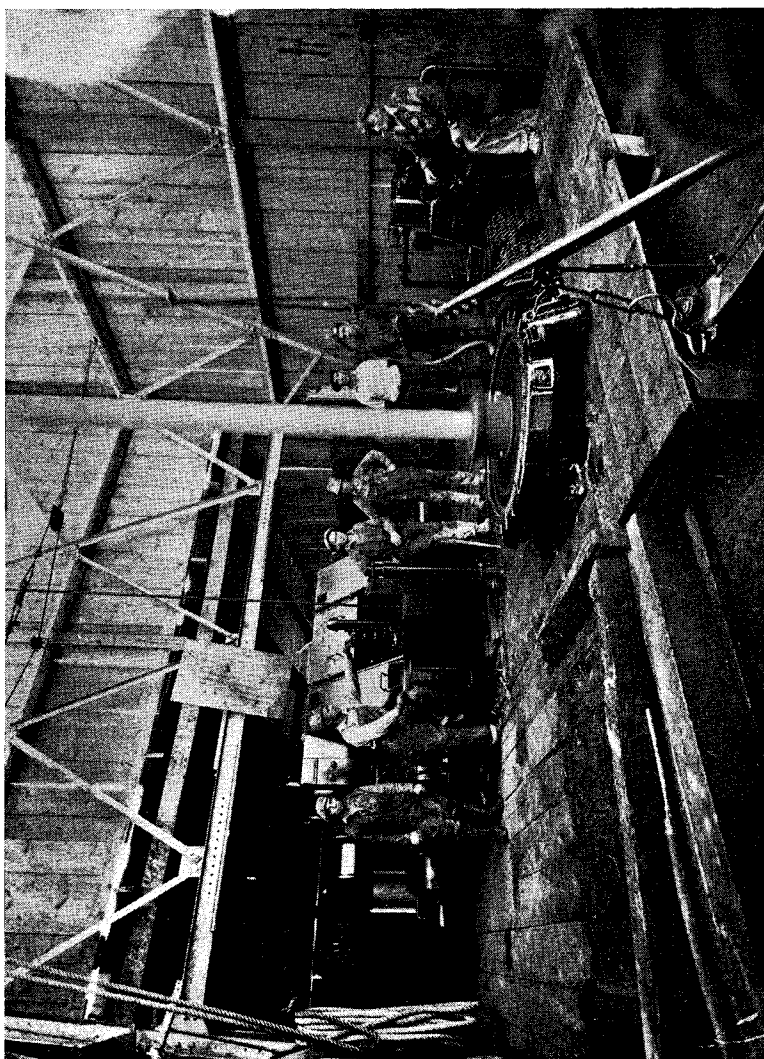
Crown royalties collected on coal since April 1st, 1907, are as follows:—

Fiscal Year	Royalty Paid	Fiscal Year	Royalty Paid
1907-1908	\$ 7,621.67	1925-1926	\$ 188,277.94
1908-1909	5,322.39	1926-1927	218,150.10
1909-1910	153,559.98	1927-1928	231,757.96
1910-1911	218,932.88	1928-1929	254,616.27
1911-1912	104,894.55	1929-1930	248,083.71
1912-1913	142,997.79	1930-1931	105,126.51
1913-1914	147,198.75	1931-1932	145,170.33
1914-1915	104,489.77	1932-1933	143,800.01
1915-1916	67,190.17	1933-1934	193,527.82
1916-1917	149,447.82	1934-1935	176,122.43
1917-1918	144,634.75	1935-1936	186,691.23
1918-1919	175,687.66	1936-1937	193,810.33
1919-1920	181,641.80	1937-1938	173,386.26
1920-1921	190,545.80	1938-1939	152,341.01
1921-1922	185,436.88	1939-1940	176,615.53
1922-1923	171,723.83		
1923-1924	210,389.53	TOTAL	\$5,298,172.56
1924-1925	148,979.10		

Coal for Domestic Use.—Permits to mine coal on provincial lands by strip-mining methods for domestic use are issued on payment of a fee of one dollar and royalty at the rate of ten cents a ton. During the year 22 permits were issued authorizing an extraction of 392 tons, none of which could be bartered or sold. All permits expire on the 31st of March following the date of issue, but are subject to renewal from year to year providing the permittee complies with the requirements of the regulations and submits an application for renewal prior to the expiry date.

QUARRYING

Quarrying leases on Crown lands are issued under the regulations for limestone, granite, slate, marble, marl, gravel, sand, clay, volcanic ash or any building stone at a yearly rental of \$1.00 an acre and a royalty of five cents a cubic yard. The royalty charge does not apply to leases issued to railway companies for the maintenance of roadbeds or to leases issued to cities, towns or municipalities requiring material for construction or maintenance of municipal works or improvements. During the fiscal year, nine quarrying leases to take gravel from the Saskatchewan River were issued. Approximately 155,000 cubic yards of sand,



Drilling. Derrick floor with draw works controlling feed. Separate engine operates rotary table
Photograph by Lane's Studio, High River, Alberta

gravel, limestone and shale were extracted from Crown lands during the calendar year of 1939.

At the close of the fiscal year, 47 leases were active covering an area of 1,287 acres.

Sand, Stone and Gravel Permits.—Permits of this nature are issued on the beds of rivers and lakes at a fee of \$2.50 and a royalty of five cents a cubic yard. A permit does not give the exclusive right to remove sand, stone or gravel from the portion of the river or bed of the lake it covers. During the fiscal year 17 permits were issued authorizing the extraction of 4,705 cubic yards but some of these are now cancelled as permits expire on the 30th day of November following the date of issue.

DREDGING

No dredging operations were conducted in the province during the year and the two dredging leases referred to in the previous report were cancelled.

QUARTZ

No powers of attorney were filed by prospectors who intended undertaking prospecting trips but two claims were recorded during the year and one certificate of work was issued. In order to procure a certificate of work on an existing claim the holder must submit evidence that he has carried out actual development work to the value of \$150.00 or make payment of that amount to the Mining Recorder. One claim for the recovery of bentonite was in operation and royalty of \$66.19, representing 2½ per cent of the value of the product, was collected.

If the regulations have been fully complied with for five years, the holder of a claim may apply for a lease for a period of twenty-one years. At present 4 leases of this nature covering 181.8 acres are active. These were issued originally by the Department of the Interior at Ottawa.

PLACER

Towards the close of the fiscal year, that is in February and March, 1940, discoveries of placer gold were made on the McLeod and Athabaska rivers with the result that nine claims were staked and recorded in township 55, ranges 13 and 14, west of the 5th meridian, and nine in township 63, range 3, west of the 5th meridian. The claim on the Athabaska River reported extraction of 12.9 ounces of gold and was renewed. A new claim was recorded on the Peace River making a total of 20 placer grants issued during the year.

BITUMINOUS SANDS

One lease was issued covering 255.10 acres in township 89, range 9, west 4th meridian, and the lessee is required to undertake certain development work. In the McMurray district a lease of 308.71 acres is active from the previous year and one lease of 1,807.70 acres was cancelled. Two companies with existing plants are carrying out production experiments on lands held by them under special development agreements.

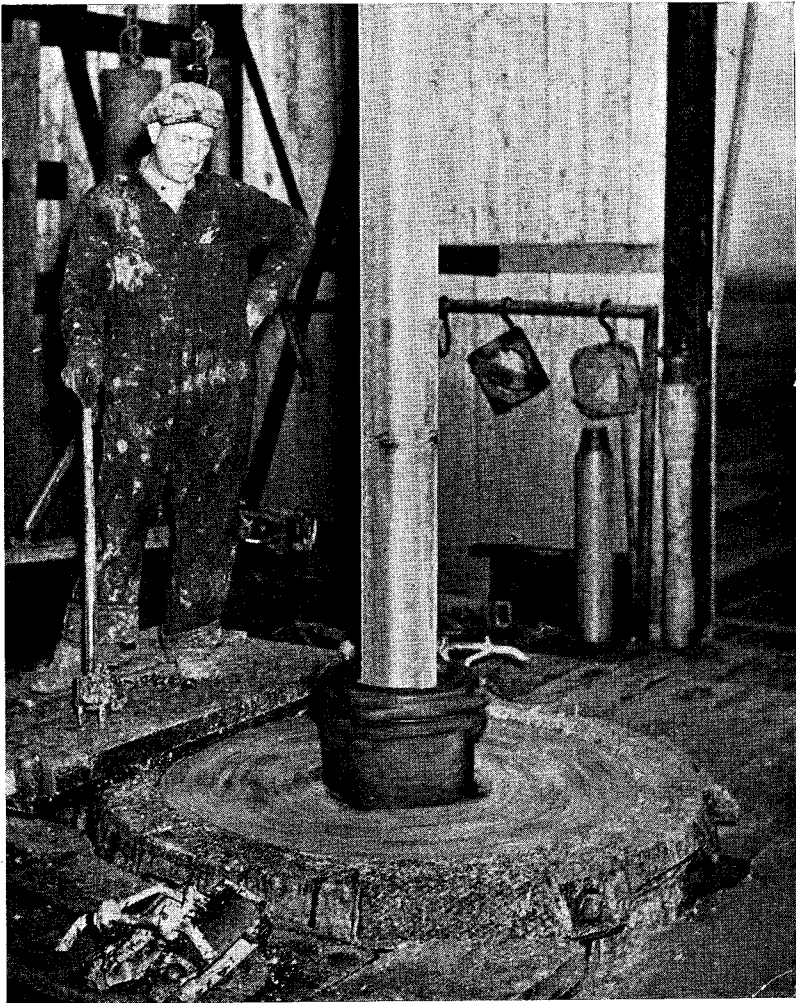
SODIUM CHLORIDE (Common Salt)

A salt lease was issued in 1937 covering 6,720.82 acres in townships 88 and 89, ranges 8 and 9, west of the 4th meridian.

Two test wells and two production wells have been drilled on this lease. The first test well was drilled in the year 1936 to a depth of 898 feet, proving salt from 694 feet to 893 feet, and the first production well drilled in 1937 to a depth of 702 feet. In 1939 a further test was made to a depth of 952 feet

disclosing salt from 723 feet to 934 feet and in 1940 a second production well was completed at 696 feet.

A considerable investment of private capital has already been made in experimentation, production and plant construction in the development of the salt industry near Waterways, but in order to take advantage of a greater available market, the salt plant was enlarged and remodelled this year. A vacuum evaporator, two grainer evaporators and modern machinery for drying, handling and packing were installed. Production from the new well and equipment began in February, 1940. The total production of the fiscal year was 2,508 tons, subject to Crown royalty of twenty cents a ton.



Drilling. Rotary table in action

Photograph by Don Colman

MISCELLANEOUS LEASES

Two leases are in force for the removal of sodium sulphate (glauber salts) occurring in a comparatively pure condition in certain sloughs and shallow lakes. The leases were issued for a term of five years and contain an area of 32.56 acres. Production for the year amounted to 40 tons.

SPECIAL PERMITS

The annual permit for the collection of bitumen issuing from a well in the Peace River District was again renewed and during the year 584 gallons were secured.

PETROLEUM AND NATURAL GAS

Drilling Activity and Statistical Data

(Development in 1939-40)

The fiscal year 1939-40 established a new oil production record in its total of 8,039,279 barrels, an increase of 1,387,958 over the preceding fiscal year.

The following review of drilling activity and statistical data covering this period is presented.

TURNER VALLEY COMPLETIONS

Arranged by date of reaching final depth during the fiscal year (west of the 5th meridian)

Well	Location	Depth	Date Started	Date Completed
N.W.H.B. 1	*16 of 8, 18-2	7494'	Dec. 2, 1938	April 12, 1939
Royalite 35	7 of 27, 20-3	7381'	Aug. 13, 1938	April 15, 1939
Harris 1	13 of 9, 18-2	7244'	Dec. 11, 1938	April 26, 1939
East Crest 4	8 of 6, 19-2	8040'	Mar. 21, 1938	May 9, 1939
York 2	6 of 20, 18-2	8027'	Nov. 2, 1938	May 24, 1939
Okalta 8	6 of 16, 18-2	7121'	Feb. 18, 1938	May 28, 1939
Oil Ventures 1	14 of 32, 18-2	7807'	Dec. 29, 1938	June 17, 1939
Harris 2	15 of 32, 18-2	7564'	Dec. 22, 1938	June 19, 1939
British Colonial 1	5 of 32, 18-2	8364'	Apr. 28, 1938	June 24, 1939
Anglo Canadian 5	8 of 31, 18-2	8639'	Dec. 27, 1938	July 2, 1939
Winalta 1	15 of 5, 19-2	7253'	Jan. 10, 1939	July 10, 1939
Calwin 1	1 of 5, 19-2	7257'	Jan. 2, 1939	July 16, 1939
Royalite 39	3 of 29, 18-2	8039'	Feb. 10, 1939	July 23, 1939
Royalite 40	4 of 5, 19-2	7880'	Mar. 3, 1939	July 22, 1939
Anglo Canadian 4	6 of 17, 18-2	8303'	Jan. 18, 1939	July 25, 1939
Royalite 41	1 of 17, 18-2	7415'	Apr. 14, 1939	Aug. 2, 1939
Extension 2	11 of 17, 18-2	8254'	Feb. 12, 1939	Aug. 21, 1939
Anglo Canadian 6	3 of 17, 18-2	8334'	Feb. 6, 1939	Aug. 29, 1939
Royal Canadian 3	12 of 29, 18-2	8667'	Feb. 28, 1939	Oct. 2, 1939
Royalite 42	4 of 32, 18-2	8491'	Apr. 30, 1939	Oct. 5, 1939
Anglo Canadian 8	11 of 7, 19-2	7788'	Jan. 31, 1939	Oct. 19, 1939
Argus 1	14 of 25, 19-3	7384'	May 4, 1939	Oct. 19, 1939
Okalta 7	3 of 16, 18-2	7425'	Jan. 23, 1938	Nov. 19, 1939
N.W.H.B. 2	9 of 8, 18-2	7591'	July 31, 1939	Dec. 2, 1939
Royalite 43	2 of 22, 20-3	8800'	May 10, 1939	Dec. 4, 1939
Royalite 45	14 of 5, 19-2	7486'	Aug. 11, 1939	Dec. 23, 1939
Command 2	11 of 29, 18-2	8784'	Sept. 7, 1939	Dec. 29, 1939
Royalite 46	2 of 17, 18-2	7994'	Aug. 8, 1939	Dec. 30, 1939
Home-Millarville 4	9 of 28, 20-3	8334'	June 30, 1939	Jan. 13, 1940
Anglo Canadian 7	9 of 31, 18-2	8391'	Aug. 8, 1939	Feb. 1, 1940
Southwest 3	3 of 8, 19-2	7167'	Oct. 15, 1939	Feb. 7, 1940
Home-Millarville 3	1 of 33, 20-3	8311'	July 19, 1939	Feb. 21, 1940
Vanpeg 1	9 of 5, 19-2	7072'	Aug. 15, 1939	Mar. 5, 1940
Arrow 1	16 of 13, 19-3	8102'	Sept. 14, 1939	Mar. 17, 1940

*Note:—Legal subdivision 16 of section 8, township 18, range 2.

As on March 31, 1940, completions in Turner Valley stood as follows:—

Gas wells drilled to limestone completion	116
Gas wells abandoned	13
	<hr/>
Completed as oil wells, later turning to gas wells	103
	<hr/>
Capable of producing	2
	<hr/>
Oil wells completed as producers, less 2 transferred to gas well list	105
Deduct as not yet on production at end of March	1
Deduct as not commercial	1
	<hr/>
Producing	101
	<hr/>

Note that not all of the above gas wells are actually produced, and those produced were in many cases operated intermittently.



Rock bits. New one ready to put on; old one worn out. Above the limestone such a bit cuts 40 or 50 feet of hole before wearing so much as to require rejection. In the limestone a bit averages 10 feet of hole but may make less than one foot in hard bands

Photograph by Don Coltman

DRILLING ACTIVITY OUTSIDE TURNER VALLEY

Dina Field.—Highwood Blackfoot 1, in 1 of 36, 47-2 w. 4, was drilled to 2,330, in the top of the Palaeozoic and abandoned when no oil or gas was obtained.

Wainwright Field.—Montreal Alberta, in 2 of 15, 45-7 w. 4 was deepened to 4,558 in a test of the Palaeozoic.

Lloydminster.—Shaw 1, in 8 of 26, 49-1 w. 4 was completed as a gas well, depth 1,754.

Shaw 2, in 10 of 25, 49-1 w. 4 was completed at 1,756 as an oil well.

Vermilion.—J. L. Graham, Norton No. 1, renamed Battleview 2, in 13 of 20, 50-5 w. 4 was completed as an oil well at 1,858, and a bailing test was made.

J. L. Graham, Shane No. 1, in 1 of 14, 49-6 w. 4, was completed as a gas well and closed in pending marketing arrangements.

Del Bonita.—Terminal 2, in 13 of 18, 1-21 w. 4 was completed at 5,212 with small oil production and considerable gas.

Aldersyde Area.—Ranchman's No. 1 in 16 of 13, 20-29 w. 4 continued intermittent fishing operations.

Bragg Creek.—Marjon 5, in 1 of 5, 22-4 w. 5, was drilled to 2,260 and abandoned for lack of funds.

Brazeau.—Home-Brazeau 1, in about 16 of 7, 43-17 w. 5 (Unsurveyed territory), reached 7,039 at the end of March and continued drilling.

Brooks.—Tilley 1, in 13 of 19, 17-12 w. 4, was completed at 1,230 as a small gas producer for local use.

Cardston.—Franco 2, in 1 of 10, 3-26 w. 4, was drilled to 1,175 and the rig skidded due to mechanical difficulties. New hole was made to 1,467 before operations were suspended.

Ghost River.—Grease Creek 1, in 2 of 13, 29-7 w. 5, was continued to a depth of 7,011 when fishing operations became necessary, and the well was abandoned after unsuccessful attempts to clear the hole.

Highwood.—Alberta Pacific Consolidated, Sheppard Creek 1, in 6 of 7, 16-2 w. 5, was drilled to 4,331, with operations continuing.

J. & J. 1, in 9 of 12, 16-3 w. 5, was started, but drilling stopped at shallow depth, about 60 feet.

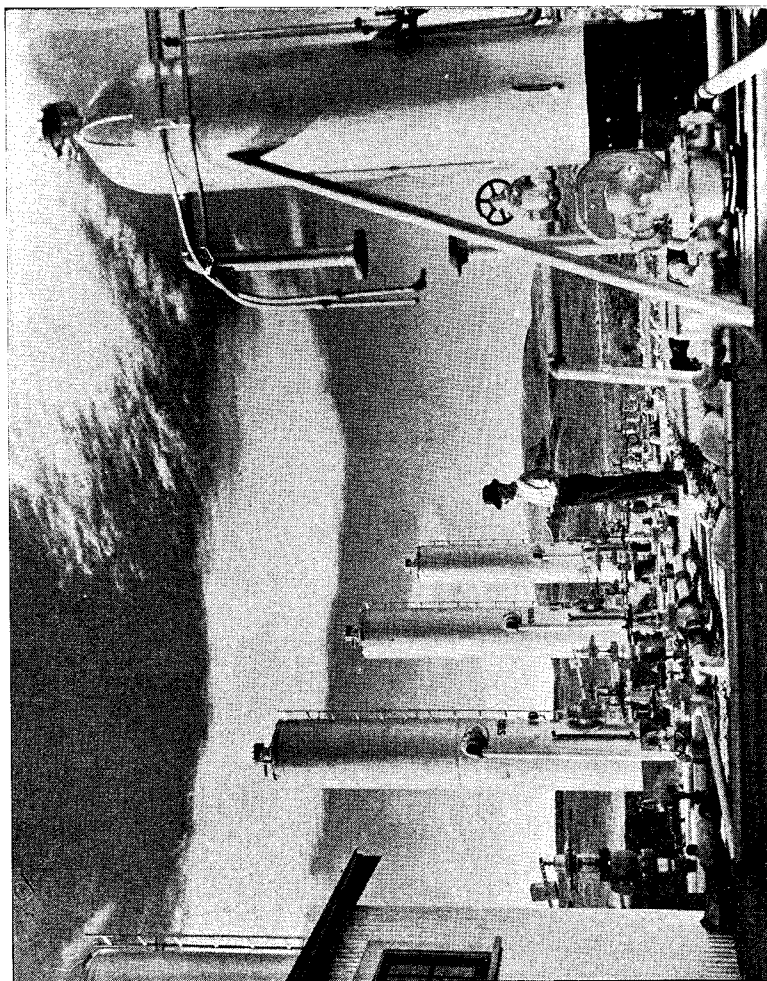
Jumping Pound.—Brown Consolidated (Rabson) 1, in 3 of 36, 24-5 w. 5, was drilled to 6,885 and abandoned on finding unfavourable geological conditions at depth.

Lundbreck.—Maxmont 1, in 10 of 20, 9-2 w. 5 reached a depth of 8,495. Fishing operations were in progress at the end of the period.

McMurray.—Industrial Minerals 4, in 7 of 10, 89-9 w. 4, was started as a second hole for producing salt. At 103, mechanical trouble made it necessary to skid the rig, and hole 4A was eventually completed at 924 feet.

Medicine Hat.—Servicing operations and abandonment of an old well were the only activities in gas development.

Milk River.—Range 1 in 9 of 29, 1-11 w. 4, also known as Rogers Imperial, which supplied gas for Montana consumption over a period of years, reached a stage of depletion about the middle of 1939, where it was no longer possible to supply the pipeline, and gas deliveries ceased. The pipeline was later lifted. Abandonment operations have not yet been undertaken.



Battery of separators. Production from several wells taken care of at a central place

Photograph by Don Colman

Pouce Coupe.—Guardian 1, in 7 of 7, 80-12 w. 6 reached a depth of 5,459 before operations were suspended for the winter.

Spring Coulee-Del Bonita.—Lyons McIntyre 1, in 14 of 19, 3-21 w. 4, resumed operations and reached a depth of 4,588 at the end of the period, with drilling proceeding.

Steveville-Princess.—Anaconda 1, in 15 of 9, 22-12 w. 4, was drilled to 3,727, finding water in the Palaeozoic. It was later abandoned.

Anglo Canadian 2, in 4 of 14, 20-11 w. 4, was drilled to 3,262 and tested. A large gas flow was developed at the top of the Palaeozoic with some oil showings. After testing the gas was shut off pending further developments.

Rainy Hills 1, on the line between 5 and 6 of 34, 19-10 w. 4, was drilled by Anglo Canadian and others to 3,500 feet. A large gas flow with oil showings was found at the top of the Palaeozoic with a little water somewhat farther down. The hole was cemented at the bottom to hold the gas, and operations were suspended pending further developments.

Standard Oil of British Columbia, Princess 1, in 13 of 22, 20-12 w. 4, reached 5,258 at the end of the fiscal year, and later drilled to 6,155, for a test of the entire Palaeozoic column. Favourable oil showings were encountered but the well was not a commercial oil producer. High pressure gas wrecked the rig at one stage within the period, and again later. The hole was eventually cemented off pending further developments.

Stony Indian Reserve.—Roxana 1, in 5 of 18, 24-7 w. 5 (outside the reserve), was drilled to 6,502 and abandoned on striking water.

Sundre.—Altoba Clearwater 1 in unsurveyed territory, about 5 of 31, 34-9 w. 5, was drilled to 3,052 as a diamond drill test. Some showings of oil were obtained, but the test was abandoned after water was encountered. Some valuable geological information was obtained.

Taber.—Border Petroleums drilled deeper in the CWNG Barnwell 6, in 5 of 32, 9-17 w. 4, reaching a depth of 3,579. Some oil and gas showings were found in the Sunburst sand, but water was also encountered and operations were suspended.

North Taber Royalties, in 7 of 10, 11-15 w. 4, was deepened to 3,170 and later abandoned.

Waite Valley.—National 3, in 4 of 25, 20-4 w. 5, was drilled to 7,626 and abandoned on encountering faulting to younger formation which would make the depth of the limestone so low as to be unfavourable for oil production.

Willow Creek.—Anglo Canadian-Savanna Creek 1, in 5 of 20, 14-4 w. 5, was drilled to 3,375 and abandoned. A little water was found in the Dalhousie sand, with only small showings of oil higher in the Blairmore formation.

DRILLING PROGRESS

During the fiscal year 1939-40 the following footage was drilled:—

	Turner Valley	Foothills west of Turner Valley	Rest of Province	Total
April-June	67,825	4,102	8,755	80,682
July-September	64,132	10,773	23,853	98,758
October-December	71,220	10,267	14,188	95,675
January-March	78,465	2,041	5,287	85,793
TOTALS	281,642	27,183	52,083	360,908



Laboratory. Examination of rock cuttings from rotary drill

Photograph by Don Colman

FEET OF HOLE DRILLED

Calendar Year	Turner Valley	Foothills west of Turner Valley	Rest of Alberta	Total
Prior to 1927	115,391	38,969	493,272	647,630
1927	53,340	6,898	24,728	84,996
1928	111,160	2,930	53,450	167,540
1929	240,020	49,997	80,580	370,597
1930	123,583	22,615	83,136	229,334
1931	61,939	4,244	50,369	116,552
1932	13,096	845	18,680	32,621
1933	51,806	1,743	18,300	71,849
1934	78,278	4,093	13,853	96,221
1935	27,462	7,242	25,769	60,473
1936	52,470	8,208	37,937	98,615
1937	245,531	8,851	37,572	291,959
1938	303,112	8,968	51,212	363,292
1939	281,274	25,891	67,122	374,287

NUMBER OF WELLS PRODUCING OIL

Fiscal year, 1939-40			
Turner Valley limestone oil wells	101		
Turner Valley limestone gas wells	58*		
Turner Valley shallow crude wells	3		
Red Coulee	—	162	
Wainwright	—	7	
Miscellaneous—Dina	2		5
—Moose	1		
—Lloydminster	1		
—Vermilion	1		
—Del Bonita	2		
TOTAL	—	7.	181

OIL PRODUCTION IN ALBERTA

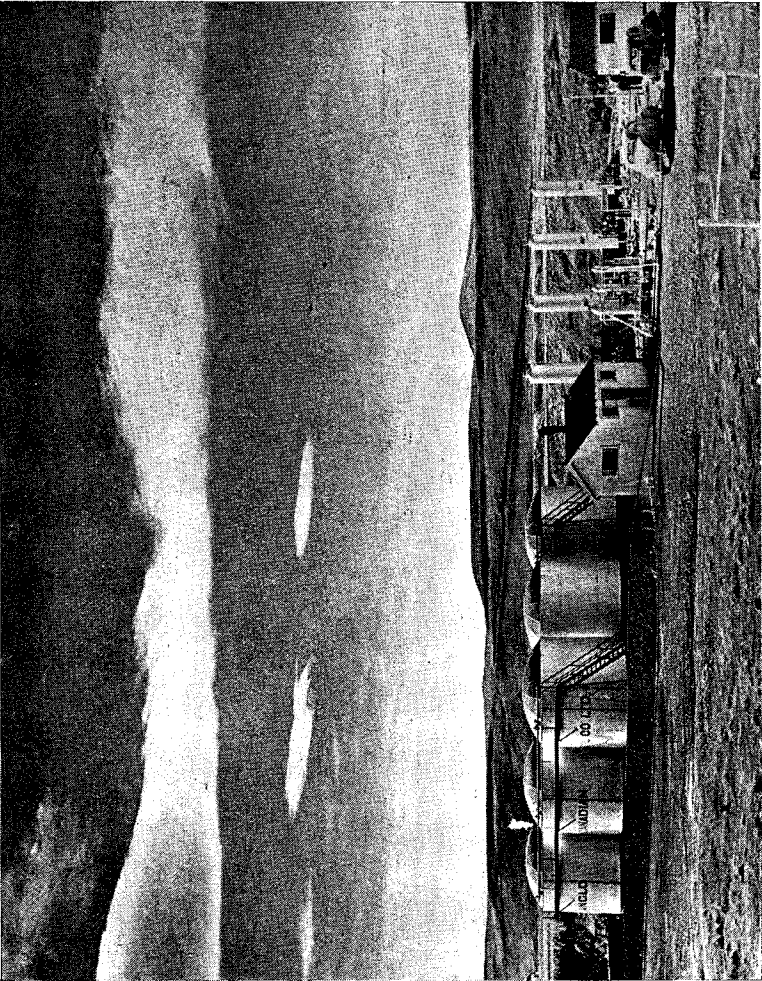
Fiscal year, 1939-40			
Turner Valley, oil wells, separators	Barrels	Value of Sales	
Turner Valley, gas wells, separators	7,633,889	\$9,063,160	
Turner Valley, natural gasoline, plants	78,098	114,512	
Turner Valley, shallow crude	284,562	545,259	
Red Coulee	8,094	10,984	
Wainwright	12,590	9,159	
Miscellaneous	11,181	9,859	
TOTALS	10,865	7,709	
TOTALS	8,039,279	\$9,760,642	
Total oil production 1914 to March 31, 1939	Barrels		
Produced 1939-40	21,736,885		
TOTAL	8,039,279		
TOTAL		29,776,164	

OIL USED IN ALBERTA IN 1939

(Quantities in Barrels)			
Stock, January 1st, 1939—			
Refined		539,610	
Crude†		359,171	
Produced in Alberta		7,594,411	
Imports except lubricants—			
Refined products	433,544		
Crude	154,631		
		588,175	
To account for		9,081,367	
Exports, not including oil in transit through Alberta—			
Refined	705,167		
Crude†	3,278,590		
		3,983,757	
Alberta Sales—			
Motor fuel	2,515,867		
Bunker fuel	440,104		
		2,955,971	
Stocks, December 31st—			
Refined	824,245		
Crude†	503,826		
Bunker fuel	121,918		
		1,449,989	
Difference, refining and handling losses, coke, asphalt, etc.		691,650	
Accounted for		9,081,367	

*Not including wells which were known to produce only gas.

†May include some bottoms.



No. 1 Tank Farm with battery of separators

Photograph by Don Coltman

MINING LANDS ADMINISTRATION

75

SUMMARY OF OIL PRODUCTION IN ALBERTA Quantities in barrels of 35 Imperial Gallons

Year	TURNER VALLEY Limestone			Shallow Crude	RED WAIN- COULEE WRIGHT		MISC. Heavy Mostly Crude	Total
	Oil Wells	Gas Wells	Natural Gasoline		Light Crude	Heavy Crude		
1914-21				56,599				56,599
1922			9,294a	6,559				15,853
1923			8,060	1,943				10,003
1924			13,205	844				14,049
1925		156,766	8,951	2,926				168,643
1926		203,725	7,283	2,609		5,981		219,598
1927		284,416	5,854	38,808		2,526	529	332,133
1928		410,623		70,734		7,952	222	489,531
1929		908,741		72,480	1,328	12,332	4,271	999,152
1930	62,539	1,251,500		50,545	53,917	9,739	5,604	1,433,844
1931	85,258	1,260,431		26,936	65,066	7,142	10,362	1,455,195
1932	60,494	793,622		21,694	34,877b	6,935		917,622
1933	55,213	711,891	185,781	23,822	31,057b	5,276		1,013,040
1934	78,624	717,818	414,324	21,896	20,989	11,779	510	1,265,940
1935	124,893	586,747	496,681	18,691	20,536	14,638	1,564	1,263,750
1936	319,845	351,914	602,360	13,119	17,937	14,957	310	1,320,442
1937	1,916,110	183,353	657,169	10,589	13,790	13,559	2,338	2,796,908
1938	6,029,010	121,439	531,434	9,192	13,818	12,985	24,161	6,742,039
1939	7,180,161	70,650	296,787	8,431	13,022	11,624	13,736	7,594,411
TOTAL	15,912,147	8,013,636	3,237,183	458,417	286,337	137,425	63,607	28,108,752

NOTE.—The division between oil wells and gas wells in Turner Valley limestone is only approximate.

a. From 1922 to 1927, natural gasoline was derived from horizons above the limestone; from 1933 onward, from the limestone.

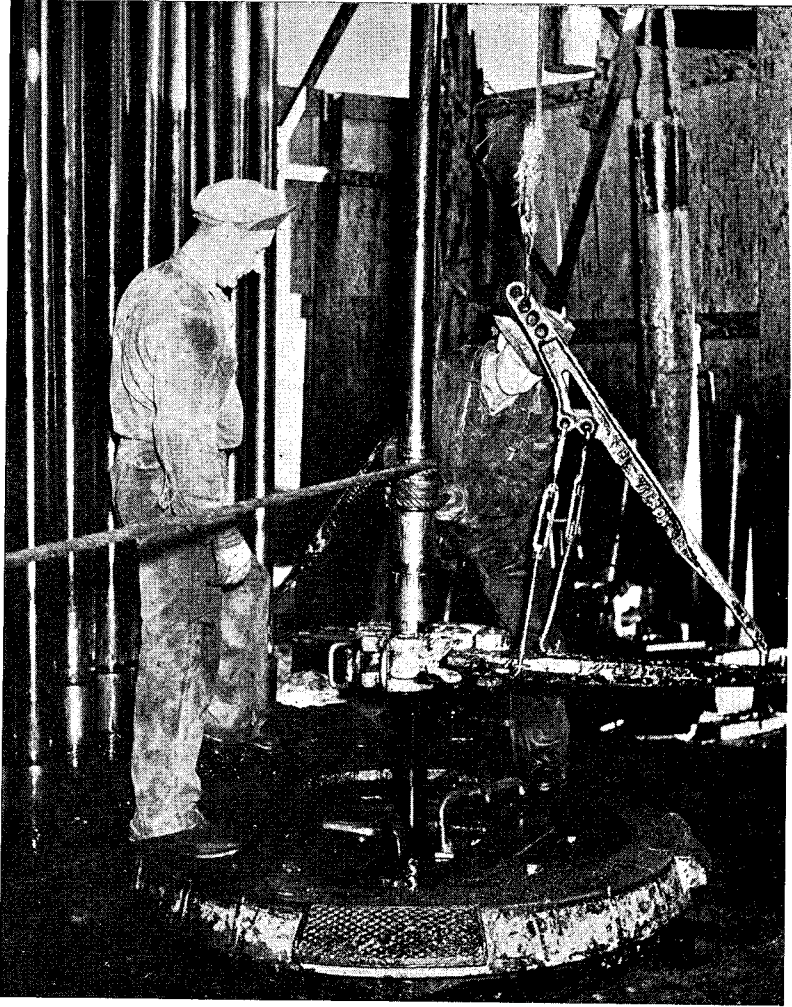
b. Includes some light crude from miscellaneous localities.

ALBERTA OIL PRODUCTION

Company		December 1939	Calendar Year, 1939	Total to end of 1939
Turner Valley Limestone Oil Wells				
Anglo-Canadian 1		6,561	89,205	105,080
Anglo-Canadian 3		11,987	147,208	147,208
Anglo-Canadian 4		7,250	54,899	54,899
Anglo-Canadian 5		7,626	50,958	50,958
Anglo-Canadian 6		15,145	64,911	64,911
Anglo-Canadian 8		1,174	6,393	6,393
Anglo-Canadian Associated Companies:				
Argus 1		1,693	3,176	3,176
Coronation 1		5,668	111,277	188,874
Extension 1		7,569	162,294	162,294
Extension 2		7,075	59,980	59,980
Firestone 1		1,812	53,079	188,685
Foundation 1		1,533	38,957	229,988
Frontier 1		6,178	160,504	397,648
Monarch 1		2,855	49,088	210,153
Prairie 1		4,009	130,438	434,585
Spy Hill 1		948	18,385	43,107
Sundance 1		5,318	155,363	334,006
Westflank 1		2,517	35,139	86,643
Westflank 2		1,492	44,336	133,265
Westflank 3		1,306	33,439	93,425
Barsac 1		3,613	66,055	133,132
British Colonial 1		7,249	65,678	65,678
Brown 1		3,207	82,228	330,043
Brown 2		3,921	102,480	276,195
Brown 4		3,408	77,347	176,483
Brown 5		2,968	54,615	76,450
Brown Associated Companies:				
B. and B. 1		1,757	33,326	327,103
Four Star 1		3,041	66,783	199,655
Intercity 1		2,549	45,403	48,528
Royal Crest 1		3,052	61,218	161,705
Three Point 1		1,379	26,450	88,087
Turner Valley Royalties 1		2,353	51,122	548,378
United 5		4,319	107,718	194,505
Vulcan-Brown 1		8,238	186,250	371,499
Westside 1		2,748	38,655	197,696
Calwin 1		3,159	19,064	19,064
Command 1		5,740	112,935	122,663
Commoil 1		4,285	145,593	501,650
Commoil 2		4,226	113,804	170,389
Consolidated 1		7,238	138,997	171,691
D. and D. 1		4,386	67,110	67,110
Davies 1		4,951	92,893	184,661

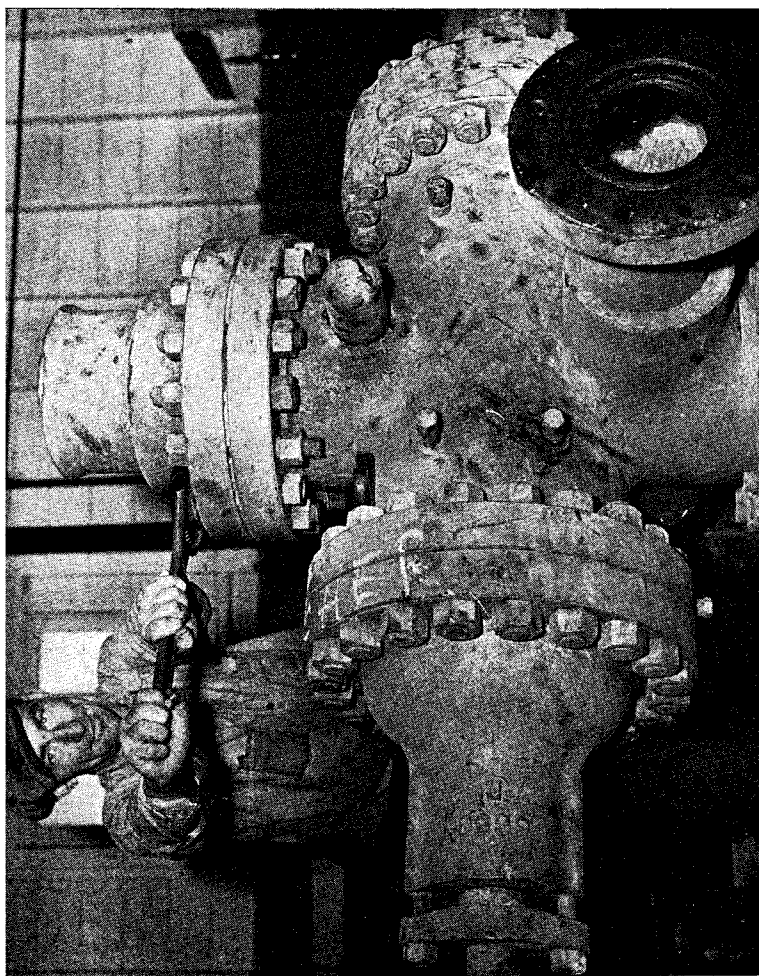
DEPARTMENT OF LANDS AND MINES

Company	December,	Calendar Year,	Total to
Turner Valley Limestone Oil Wells	1939	1939	end of 1939
Davies 2	3,923	84,775	491,069
Davies 4	5,268	109,969	133,869
East Crest 4	1,052	16,906	16,906
Globe 1	4,055	59,714	106,768
Granville 1	2,567	39,774	112,205
Harris 1	3,957	43,442	43,442
Harris 2	5,154	74,503	74,503
Home-Millarville 2	12,582	221,082	221,082
Mercury Royalties 1	1,748	43,080	80,535
Model 1	3,257	36,801	492,398
Model 2	627	6,004	47,885
Model-Spooner-Reward 2	1,654	78,145	209,907
National 1	2,101	45,754	251,006
National 2	4,081	58,683	104,414
Northwest-Hudson's Bay 1	6,550	141,878	141,878
Northwest-Hudson's Bay 2	5,115	5,115	5,115
Oil Ventures 1	5,011	59,295	59,295
Okalta 7	5,726	5,726	5,726
Okalta 8	6,292	80,377	80,377
Pacific 1	5,519	120,873	294,355
Pacific 2	4,862	105,857	174,471
Pacific 3	5,471	126,695	135,383
Richwell 1	3,522	76,446	103,029
Royal Canadian 1	4,872	100,393	257,805
Royal Canadian 2	6,495	174,563	207,725
Royal Canadian 3	7,309	30,410	30,410
Royalite 28	3,200	61,637	137,885
Royalite 29	3,789	75,065	162,713
Royalite 30	7,277	162,377	281,088
Royalite 31	4,182	63,615	101,387
Royalite 32	4,844	84,568	141,378
Royalite 33	4,928	76,730	113,758
Royalite 34	3,626	39,852	46,169
Royalite 35	5,464	81,492	81,492
Royalite 36	9,567	163,759	163,759
Royalite 37	7,119	127,409	127,409
Royalite 39	7,603	62,054	62,054
Royalite 40	7,058	46,281	46,281
Royalite 41	6,805	59,521	59,521
Royalite 42	10,221	39,284	39,284
Royalite 43	9,300	9,300	9,300
Royalite 45	3,208	3,208	3,208
Sterling Pacific 4	3,807	72,327	539,186
Sterling Pacific 5	3,987	68,554	394,329
Sterling Pacific 6	5,111	71,079	303,692
Share 1	2,588	35,676	132,771
Sunburst 1	2,492	44,728	114,531
Sunset 1	5,610	152,298	397,066
Sunset 2	6,794	131,068	184,711
Winalta 1	5,855	53,126	53,126
York 1	6,152	148,155	224,983
York 2	5,288	41,024	41,024
3 gas wells while in oil list .....	.....	34,961	.....
TOTALS	452,148	7,180,161	.....
Gas Wells Separators	6,658	70,650	8,013,636
ABSORPTION PLANTS:			
British American	4,362	70,585	308,013
Gas and Oil Products	3,286	50,994	455,154
Royalite No. 1	11,017	106,496	1,720,350
Royalite No. 2	4,595	68,712	691,198
Earlier plants .....	.....	.....	62,468
All Absorption Plants	23,260	296,787	3,237,183
SHALLOW CRUDE:			
4 Wells (year)	673	8,431	458,417
RED COULEE:			
Vanalta (7 Wells)	1,102	13,022	286,337
WAINWRIGHT:			
5 Wells (year)	1,252	11,624	137,425
MISCELLANEOUS:			
9 Wells (year)	525	13,736	63,607
Total Oil Production for December, 1939	485,618	.....	.....
Total Oil Production for 1939 .....	.....	7,594,411	.....
Total Alberta Oil Production (1914 to 1939, inclusive) .....	.....	.....	28,108,752



Going into the hole with rotary drill pipe

Photograph by Don Coltman



Blowout preventer. For use while drilling with rotary tools. Rams can be closed on drill pipe inside, in case of blowout
Photograph by Don Coltman

ESTIMATE OF WITHDRAWALS AND WASTE OF GAS FROM TURNER VALLEY

	Mcf. Drawn	Mcf. Wasted
To end of March, 1935	717,110,000	614,050,000
1935-36	90,250,000	78,020,000
1936-37	87,000,000	74,710,000
1937-38	82,119,000	59,566,000
1938-39	63,093,000	44,057,000
1939-40	46,673,000	27,981,000
TOTALS	1,086,245,000	898,384,000

GAS WELLS (except Turner Valley)
as at end of fiscal year

Medicine Hat-Redcliffe	45	Fabyan	2
Bow Island	11	Brooks	6
Foremost	6		
Viking	21	TOTAL	95
Kinsella	3		
Battleview	1		

Wells serving a single consumer are not included.

PRESSURES IN GAS FIELDS, 1939

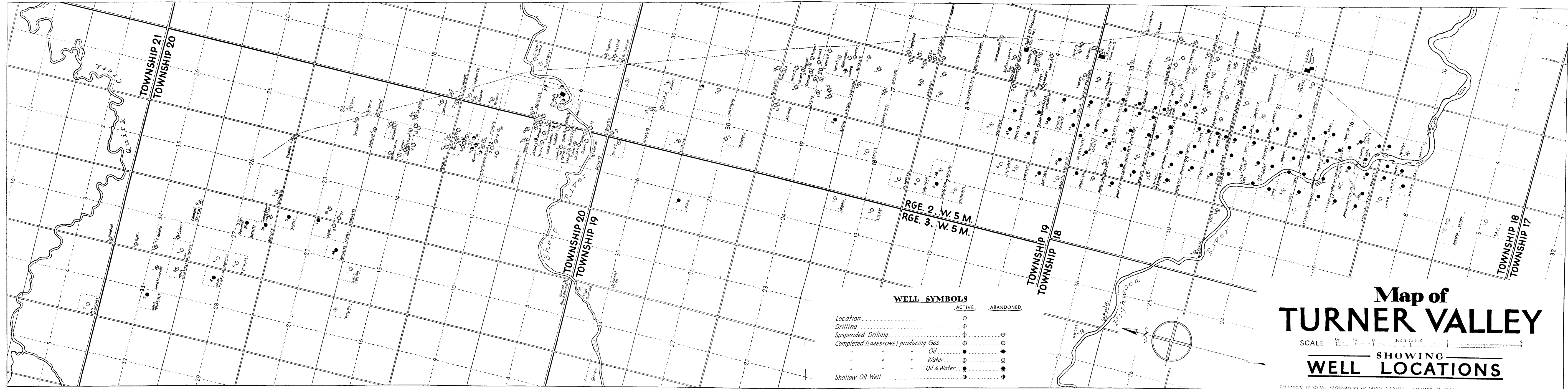
Turney Valley—850 to 390 (No average attempted).

Viking—518 (A decline of 15 pounds from 1938).

Medicine Hat, Redcliffe—No tests. 408 pounds in 1937.

GAS CONSUMPTION IN ALBERTA, 1939-40

	Thousands of cubic feet
Calgary-Lethbridge System:	
From Foremost	0
From Turner Valley:	
Gas Company	6,446,619
Refinery	1,219,316
Bow Island Town	42,631
Field use	9,980,197
From Wainwright—to town supply	104,355
Field use (estimated)	12,000
	116,355
Brooks	49,963
From Viking to Edmonton and towns	3,488,657
Medicine Hat	2,023,034
Redcliff	633,463
Range—exported to Montana	98,736
Red Coulee—field use including export to Montana	28,868
Miscellaneous	52,650
TOTAL	24,140,489



Technical Division

REPORT OF THE SUPERINTENDENT OF THE TECHNICAL DIVISION, T. W. DALKIN

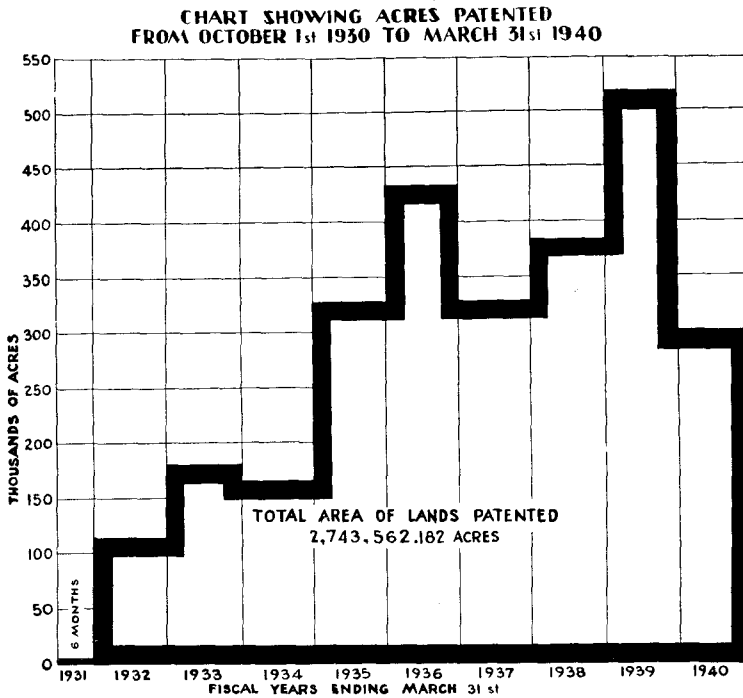
Notifications (Land Patents).—During the fiscal year ending March 31st, 1940, 2,097 notifications were issued covering an area of 301,431.972 acres and 152 subdivision lots, particulars of which are as follows:—

Classification	Notifications	Area (Acres)
Homesteads	1,390	215,485.824
Second homesteads	380	58,423.40
Soldier grants	49	7,631.925
School lands' sales	113	15,758.49
Sales (including lots in subdivisions)	90	1,806.353
Special grants	51	1,052.695
School lands' grants	6	20.935
Purchased homestead	1	160.00
North-west half-breed grants	1	80.00
Exchange of lands (Special Areas)	3	639.00
Release of habendum clauses	2	333.56
Canadian Pacific Railway grants	1	2.96
Northern Alberta Railways grants	1	0.40
Canadian National Railways sales (Special Areas)	1	16.19
Canadian Northern Western Railway Company grants	1	6.09
Grand Trunk Pacific Railway Company sales	2	10.47
Canadian Northern Railway Company sales	5	3.68
TOTALS	2,097	301,431.972

Details of Sales in Subdivisions	Notifications	Number of Lots
Jarvie	2	4
Coleman, Plan 6808 CU	9	12½
Barnwell, Plan 3105 Y	4	11
Johnson's Addition (Taber 3876 R)	2	1½
Canmore	5	8
Maple Leaf, Plan 7242 AI	2	3
Maple Leaf, Plan 6632 Y	1	1
Peace River Landing Settlement 7361 AH	1	1
Patricia Townsite, Plan 1217 BA	1	1
Townsite of Seven Persons, 1143 AC	1	1
Whitla, Plan 191 AG	1	4
Carbondale, Plan 232 AI	2	87
Travers, Plan 927 AY	1	4
Lac La Biche, Plan 4313 BF	1	1
Hemaruka, Plan 4934 DO	2	3
Walsh Plan, 3644 B	1	2
Sibbald, Plan 5039 AV	1	2
Bellevue, Plan 7134 AI	1	1
School Lands' Sales:		
McLennan Townsite, Plan 1394 EU	2	4
TOTALS	40	152

Homestead Entries.—The homestead policy of the Department has been discontinued with the result that only 25 entries, which were pending, were granted and checked in the usual way for reservations covering previously alienated areas in each entry.

New Surveys.—Townships 66 and 67, range 2, west of the 5th meridian: There are still isolated portions of railway rights of way in unsurveyed lands to which the Northern Alberta Railway Company has not received title in accordance with the agreement of sale of the railways between the provincial Government and the Northern Alberta Railway Company. As the provincial Government is obligated to deliver title to the railway right of way a survey was ordered along the old Edmonton, Dunvegan and British Columbia right of way through the unsubdivided area in townships 66 and 67, range 2, west of the 5th meridian, near Tieland. This survey was completed in the fall and as soon as plans are prepared title will issue accordingly to the Northern Alberta Railway Company.



Plan of East Coulee Addition, Part of legal subdivisions 9, 10, 14, 15 and 16, section 29, township 27, range 18, west of the 4th meridian: For some time squatters had built in a very haphazard fashion on the above location and a very unsatisfactory situation arose between the Empire Collieries, Limited and several of their employees who had squatted upon the land. Representations were made to the Department and it was eventually agreed, in order to assist in the creation of a more orderly plan of survey, that the Department would undertake to survey into lots and blocks the lands occupied by the squatters, to the satisfaction of the Director of Town Planning. This has been completed and plans of survey prepared accordingly.

North-west quarter of section 36, township 23, range 1, west of the 5th meridian, north and west of the Bow River: Through an application of The British American Oil Company, Limited to the City of Calgary for a pipe-line right of way at this location, it was revealed that there were no traverse notes along a certain portion of the bank of the Bow River at this point. Due to the fact that this land was unsurveyed an arrangement was satisfactorily carried out with the City of Calgary whereby this survey would be made at the expense of the city.

Upon the completion of this survey it was further agreed that the City of Calgary would transfer the surface rights of this area to the Crown according to the present title, in return for which a notification would be issued for the surface rights in favour of the city covering the land lying to the north and west of the bank of the Bow River, as established by the new plan of survey.

Many applications are received from time to time for new surveys and also for the re-establishment of old ones. An interesting application came from the Alberta Petroleum Association wherein a request was made for a re-survey of

the potentially productive area of Turner Valley due to the fact that difficulty was being experienced by the various companies in locating land because of the removal of the iron posts establishing the surveyed lands. The Department is giving consideration to this request and there is the possibility that, if funds are available, it will be undertaken next year.

Roadways.—There were 108 plans of survey of road diversions affecting 387 parcels of provincial lands recorded in this Division. Reservations were made in the records and in some cases old surveys of roadways were cancelled in order to permit of the reservation of land required for new surveys. Where roadways affected alienated lands, quit claims were obtained and compensation exacted.

New Maps.—Natural resources map: Reference was made in last year's report to the preparation of a map of the province showing the natural resources. This map has now been completed and is drawn to a scale of 20 miles to the inch. The surface resources, including agricultural, forestry, fisheries, game, water power, etc., and the mineral resources such as oil, coal, gas, bituminous sands, salt, building stone, etc., are shown in green.

In addition to the resources the map shows the air lines in blue and the highways in red. There has been an unusual demand for this map and applications for it have been received from many sources outside the province. From reports it is indicated that the natural resources map has been of tremendous value in the schools of the province and in co-operation with the Deputy Minister of Education 3,500 of these have been distributed, without charge, throughout Alberta schools.

Lloydminster-Wainwright Area: At the request of the Conservation Board large tracings were prepared covering an area of 120 townships on the scale of 5,000 feet to the inch showing oil and gas wells.

Strip Map, Turner Valley: A strip map of the Turner Valley area was prepared showing all the well locations which were noted by symbols under the following classifications:—

- Location
- Drilling
- Suspended drilling
- Abandoned
- Completed (limestone) producing gas
- Completed (limestone) producing oil
- Completed (limestone) producing water
- Completed (limestone) producing oil and water
- Shallow oil wells

This map is very convenient in size and has been greatly in demand.

Plan of Turner Valley: This plan, scale two inches to the mile, was prepared by photo-lithographing the tracing from the 2,000 foot scale map originally made for the Conservation Board. To this plan were added the cross sections traced from the originals prepared by Dr. G. S. Hume of Ottawa.

The map and graph work and also the frontispiece of the booklet entitled "The History of Alberta Oil" were executed in this Division.

Agricultural Lease Map: Due to the discontinuance of the homestead policy a small map was prepared showing the areas in Alberta within which agricultural leases may be obtained under the Regulations upon open and available Crown lands.

Special Areas.—The setting up of the Special Areas records still continues to absorb a great deal of time in this Division. In order to obtain a complete standing of the lands in these areas a clerk was appointed in October to search

the records of the Land Titles Offices. At the present time he is still in Calgary and complete details have been received of the Bow West and Tilley East Special Areas and up to township 30, range 2, west of the 4th meridian in the Sounding Creek-Neutral Hills Special Area.

Each morning a list of searches arrives from Calgary and are duly entered in our records and a photostat copy of the searches is forwarded to the Secretary of the Special Areas Board.

The information received from these lists has been most useful and has enabled the Department to list numerous quarters in the name of the Crown of which no previous advice had been received upon the transfer of the Special Areas to this Department.

Missing duplicate certificates of title in the name of the Crown are being traced and recorded in the Division.

A complete list of all the lands under agreement of sale has been compiled. Many of these contracts are now invalid and it is the intention, as far as possible, to obtain the cancellation of such agreements. Where contact can be made with the purchaser who voluntarily consents to cancellation, a lease of the land is being made available for him.

Innumerable maps have been made of the Special Areas in co-operation with the Special Areas Board. Some of these maps show various ownerships and a bird's-eye picture can readily be obtained of the extent of the holdings of the Crown in the Special Areas.

With each successive year the Crown is gradually obtaining the reversion of large areas and during the period under review, approximately 790 titles were obtained in the name of the Crown through tax recovery proceedings, comprising an area of approximately 321,060 acres. At the present time there are about 1,000 final acquisition transfers covering as many parcels of land in the name of the Crown awaiting registration in the Land Titles Office under tax recovery proceedings.

There have been a number of applications from the Canadian National Railways for extra rights of way for snow fences in the Special Areas and notifications granting title to the land have been issued accordingly.

Photostat Machine.—In keeping in step with the progress of the times and in order to cope with the increasing volume of work, a modern photostat machine was installed in September and has been in continuous operation. The advantages of this machine have been recognized by the Dominion Government and by large corporations and it is used for making a great variety of copy, large or small, quickly and at low cost.

The photostat is a simple, practical machine which quickly produces photographic copies of all kinds of documents and it is particularly advantageous to this Division in connection with the reproduction of maps, plans and sketches. By means of graduated scales the photostat is quickly and mechanically adjusted to copy any class of work to original, reduced or enlarged size, within the limits of the machine.

The variety of subjects that have been copied include blue prints, book pages, charts, clippings, contracts, court exhibits, deeds, drawings, leases, ledger sheets, production data, profiles, rare documents, records, reports, specifications, statistics, tracings, testimonials and tax returns. A complete copy of the tax returns and the assessment rolls was made in connection with the setting up of the records of the Special Areas and there is no doubt that the time and labour saved in this respect alone have paid for the cost of the machine.

A particularly attractive feature in the photostating of the Special Area records was that no time whatsoever was spent on checking the copies as the

photostat cannot make a mistake but makes an exact reproduction of the original. In addition to the work that has been turned out for this Department the photostat service has been made available also to all other departments of the Government. In this particular a considerable amount of work is done and service is rendered at cost to the different departments.

At the present time it is interesting to record that correspondence is being carried on with various firms in Canada and the United States in the hope that some system may be evolved to photorecord files on 16 MM indestructible film. As in the case of many organizations the storage space required for old files is presenting quite a problem in this Department and, if such a method can be successfully introduced, film records of files would release as high as 95 per cent of our storage space for other purposes. It can be realized, therefore, that the saving in space throughout the provincial Government offices would be enormous.

Soil Surveys.—As already pointed out, the homestead policy, which was introduced by the Dominion Government, has been discontinued. There is no doubt that this means of land settlement was popular but on reflection, the records show that this method has been impracticable and expensive. The enormous number of cancellations of homestead entries is evidence of this and due to the fact that many of the homestead entrants, because of the impossibility of obtaining a living from the land, were placed upon relief rolls, it was recognized that the change in policy was inevitable. Consequently, on the 3rd of April, 1939, an Act to Amend and Consolidate the Provincial Lands Act was assented to.

Agricultural Leases are available upon surveyed provincial lands under the regulations. Before a lease can be granted the land applied for must first be inspected and at least 50 per cent of it declared suitable for agricultural purposes. The type of soil, topography and cost of clearing and breaking is reported on for each quarter section.

It was obvious that at the beginning a certain amount of delay in granting a lease under this policy must have been inevitable, but there was the satisfaction of knowing that when once a lease was granted there was the assurance that a living could be obtained from the land.

In order to deal with such applications two soil surveyors have been added to the staff of the Technical Division and all applications referred to them through the Director of Lands are dealt with as expeditiously as possible. It is expected that sufficient progress will be made upon these reports covering agricultural lease applications in order to eventually permit of certain areas of land being soil surveyed and classified. In this way when an application is received for land which has already been classified, the Department will be in a position to issue a lease without the present unavoidable delay.

It is regretted that the change from the old policy to the new is fraught with a certain amount of inconvenience to the settler awaiting the disposition of his application, but the wisdom of this change in policy will soon be recognized when a system of direct settlement can be organized, and lessees can be given some hope that with the proper initiative and a reasonable amount of labour a permanent home may be established.

Licences of Occupation.—A number of licences of occupation were issued, some of which, briefly, are as follows:—

Calgary Power Company, Limited: For the transmission of power from Rocky Mountain House to Nordegg.

H. D. Taylor, Vauxhall: For a small irrigation scheme constructed under the Prairie Farm Rehabilitation Act in section 34, township 14, range 16, west of the 4th meridian.

Andrew Lindbloom, Rio Grande: For a mill site in an unsurveyed portion of township 70, range 13, west of the 6th meridian and a portion of the bed of the Red Willow River for the purpose of operating a water wheel.

Middle Creek Water User's Association: For a reservoir in township 5, range 1, west of the 4th meridian.

B. O. Starkey, Canmore: For a private power transmission line right of way for certain lands in township 24, range 8, west of the 5th meridian to his Dude Ranch.

Hales H. Ross: Logging road through township 47, ranges 4 and 5, west of the 5th meridian.

Stenner Michelson Heie, Cold Lake: For the erection of a wharf and boat-house on the bed of Cold Lake in the northwest quarter of section 24, township 63, range 2, west of the 4th meridian.

Grease Creek Petroleum Limited: For a roadway through township 28, ranges 5 and 6 and township 29, range 6, west of the 5th meridian to a well site in the forest reserve.

An application was received on behalf of Ducks Unlimited (Canada), a non-profit corporation, for a licence of occupation upon an area of unsurveyed land which includes townships 85 to 88 inclusive in ranges 2, 3 and 4, west of the 4th meridian. The object of this corporation is the development of a wild life sanctuary and the propagation of water fowl, together with fur bearing and other animals.

An order in council was passed on the 19th day of December, 1939, authorizing the licence of occupation which was later issued and forwarded to Ducks Unlimited on the 22nd of February, 1940. At the close of the fiscal year this licence of occupation had not become effective due to the fact that the officials of Ducks Unlimited had not signed the document.

The Calgary Power Company, Limited, on the 15th of January, 1940, made application for authority to enter upon certain Crown lands in township 24, ranges 9 and 10, west of the 5th meridian for the construction of their transmission line from Exshaw to Canmore. The Company was given permission to proceed upon compliance with the regulations of the Department.

Leases.—Among the leases that were issued the following are of interest:—

The Governor and Company of Adventurers of England trading into Hudson's Bay for a portion containing 4.20 acres of unsurveyed land in township 111, range 1, west of the 5th meridian, bordering on the right bank of the Peace River, the area being required for a trading post site.

The Municipality of the Town of Grande Prairie covering the west half and north-east quarter of section 29, township 71, range 6, west of the 6th meridian, containing 483 acres, for an aviation field.

The British American Oil Company, Limited for a wholesale gasoline outlet site in the south-east quarter of section 29, township 28, range 6, west of the 4th meridian at Cereal.

Provincial Parks.—Two provincial parks were established by orders in council at the request of the Provincial Parks Board, one located in the northern and the other in the southern part of the province. The northern park was created by Order in Council, No. 1417/39, passed on the 24th of October, 1939. It covers an area of 21.80 acres, comprising portions of the south-west quarter of section 23 and the north-west quarter of section 14, township 70, range 6, west of the

6th meridian, adjoining the south bank of the Wapiti River and lying to the north of the surveyed highway.

The southern park is located south-west of Pincher Creek and was created by Order in Council, No. 293/40, passed on the 8th of March, 1940. The land comprised in this park includes a portion of the west half of section 29, township 5, range 1, west of the 5th meridian, adjoining the northerly boundary of a lake. The area in this park is 154.40 acres, more or less.

Soldier Settlement Board Lands.—Upon the transfer of the natural resources of the province certain lands were retained by Canada and administered under the Soldier Settlement Act due to the fact that charges were made against the lands in order to secure loans that were advanced under the provisions of this Act.

A large number of these charges has been withdrawn and the lands transferred from the Dominion to the Province of Alberta under the authority of the following orders in council:—

- P.C., No. 1162, dated the 15th of May, 1939
- P.C., No. 1551, dated the 22nd of June, 1939
- P.C., No. 1553, dated the 22nd of June, 1939
- P.C., No. 2833, dated the 25th of September, 1939
- P.C., No. 3135, dated the 18th of October, 1939
- P.C., No. 306, dated the 25th of January, 1940
- P.C., No. 694, dated the 20th of February, 1940

Certain lands in the Special Areas were also transferred to the Crown by means of transfers executed by the Soldier Settlement Board.

In concluding this report it should be stated that close co-operation with other departments is being maintained. Map work, drafting and photostat work is undertaken and general information covering a variety of subjects is supplied upon request. All departments have access to and are making increasing use of the Division's stock of up-to-date maps. The map service of this Division is now definitely established and proof of this is evidenced in the demand made by the general public from far and wide.

Accounting Division

REPORT OF THE ACTING ACCOUNTANT, J. W. PATRICK

Revenue for the year for the various branches of the Department, excluding Special Areas, amounted to \$1,944,098.82. This was the highest in the history of the Department and an increase of \$79,386.07 over the previous fiscal year. Main increases and decreases were as follows:—

	Increase	Decrease
Homestead fees		\$ 13,380.00
Timber fees, dues, rentals, etc.	\$ 62,232.24	
Coal fees, rentals, etc.	4,521.78	
Coal royalties	25,731.97	
Petroleum and Natural Gas:		
Fees, rentals, etc.		31,762.31
Royalties	13,850.77	
School lands sales interest	17,202.74	
Miscellaneous	988.88	
Net revenue increase		79,386.07
	<u>\$124,528.38</u>	<u>\$124,528.38</u>

Total expenditures amounted to \$708,605.34 as compared with \$709,624.60 for the previous year. There was therefore a surplus of \$1,235,493.48 on income account.

All revenue from public lands in the Special Areas was deposited in the Special Areas Trust Account. This amounted to \$70,329.23 as compared with \$85,178.73 for the previous year.

In this, the first year of the administration of the Special Districts, collections on taxes amounted to \$283,878.81 and the sum of \$46,380.68 was collected on agricultural advances. School requisitions amounting to \$102,188.40 and hospital requisitions of \$21,845.79 were paid to the school divisions and hospital districts from moneys borrowed from the Provincial Treasurer. The sum of \$19,430.20 was also borrowed from the Provincial Treasurer for agricultural advances in the spring of 1939.

INDEX TO STATEMENTS

- A.—Statement of Receipts from all Sources.
- B.—Statement of Receipts Income Account.
- C.—Statement of Receipts Capital Account.
- D.—Statement of Receipts, Revenue Transferred to Other Departments.
- E.—Statement of Receipts and Disposition of Levied School Taxes.
- F.—Statement of Receipts and Disposition of Hospital Taxes.
- G.—Statement of Receipts and Disposition of Collections on Agricultural Advances.
- H.—Special Areas Trust Account Statement of Receipts and Payments.
- I.—Special Districts Trust Account Statement of Receipts and Payments.
- J.—Special Areas and Special Districts Statement of Receipts.
- K.—Statement of Receipts by Branches.
- L.—Statement of Receipts School Lands Branch.
- M.—School Lands Trust Fund Balance Sheet.
- N.—Statement of Alberta School Lands Sales Revenue Account.
- O.—Statement of Collections on Tax Recovery Lands.

STATEMENT A.

STATEMENT OF RECEIPTS FROM ALL SOURCES

From April 1, 1939 to March 31, 1940

	Gross Receipts	Refunds	Net Revenue
Income Account—Statement B	\$1,972,892.63	\$ 28,793.81	\$1,944,098.82
Capital Account—Statement C	8,760.85	58.31	8,702.54
Transferred to other Departments, Statement D	20,670.76	782.71	19,888.05
School Lands Trust Fund	86,373.73	2,709.00	83,664.73
Special Areas and Special Districts, Statement J	418,337.80	269.74	418,068.06
Unapplied receipts carried forward (subject to refund):			
Suspense	96,360.67	35,353.52	61,007.15
Total	\$79,540.79		
Less hospital taxes	18,533.64		
Statement F	\$61,007.15		
Improvements	8,474.42	4,166.35	4,308.07
Land patents cultivation crop shares	404.16		404.16
School lands cultivation crop shares	13,494.10		13,494.10
Grazing permits, fees, rentals, etc.	3,853.04		3,853.04
	<u>\$2,629,622.16</u>	<u>\$ 72,133.44</u>	<u>\$2,557,488.72</u>

STATEMENT B.

STATEMENT OF RECEIPTS INCOME ACCOUNT

From April 1, 1939 to March 31, 1940

INCOME ACCOUNT:

	Gross Receipts	Refunds	Net Revenue
<i>Lands and Grazing Branch:</i>			
Casual	\$ 6,589.15	\$ 192.76	\$ 6,396.39
Grazing permits, fees, rentals, etc.	133,742.47	11,925.43	121,817.04
Hay permits, fees, dues, etc.	3,451.75	147.52	3,304.23
Agricultural fees, rentals, etc.	863.50	132.10	731.40
Homestead fees	360.00		360.00
Improvement collection fees	2,661.42		2,661.42
Filing authority fees	14.00		14.00
General sales interest	1,983.27		1,983.27
Cultivation fees, rentals, etc.	9,819.33	1,145.53	8,673.80
Surface rentals	2,345.19		2,345.19
<i>Timber Branch:</i>			
Casual	1,521.05		1,521.05
Timber fees, dues, rentals, etc.	363,815.10	5,549.99	358,265.11
<i>Mining Lands Branch:</i>			
Casual	14,951.98	75.63	14,876.35
Coal fees, rentals, etc.	111,793.81	506.76	111,287.05
Coal Mines Act sundry revenue	6,283.43	20.00	6,263.43
Coal royalties	168,805.15	2.40	168,802.75
<i>Petroleum and Natural Gas:</i>			
Fees, rentals, etc.	343,402.11	2,714.43	340,687.68
Royalties	408,304.20		408,304.20
<i>School Lands Branch:</i>			
Interest on sales	75,339.12	7.34	75,331.78
Miscellaneous	302,326.94	6,032.13	296,294.81
<i>Miscellaneous:</i>			
Casual	8,616.30	96.79	8,519.51
Services and supplies	3,850.21		3,850.21
Reimbursement of salaries and expenses	1,323.15		1,323.15
Tax recovery office fees	730.00	245.00	485.00
Total Carried to Statement A	\$1,972,892.63	\$ 28,793.81	\$1,944,098.82
Special Districts (Carried to Statement G):			
1936 Seed Grain interest	126.13		126.13
1939 Agricultural Advances interest	143.84		143.84
1937-38 Feed and Fodder interest	160.44		160.44
1938-39 Feed and Fodder interest	53.87		53.87
TOTAL INCOME ACCOUNT	<u>\$1,973,376.91</u>	<u>\$ 28,793.81</u>	<u>\$1,944,583.10</u>

STATEMENT C.

STATEMENT OF RECEIPTS CAPITAL ACCOUNT

From April 1, 1939 to March 31, 1940

	Gross Receipts	Refunds	Net Revenue
Land sales principal	\$ 8,760.85	\$ 58.31	\$ 8,702.54

STATEMENT D.

STATEMENT OF RECEIPTS, REVENUE TRANSFERRED TO OTHER DEPARTMENTS

From April 1, 1939 to March 31, 1940

	Gross Receipts	Refunds	Net Revenue
Services and supplies (National Forestry Programme)	\$ 1,638.79	\$ 782.71	\$ 856.08
Dominion of Canada Re-imbursement (National Forestry Programme)	17,723.65	.....	17,723.65
Previous year refunds	929.40	.....	929.40
Previous year collections	22.50	.....	22.50
Services and supplies (Youth Forestry Training Programme)	25.67	.....	25.67
Angling Permits	330.75	.....	330.75
Total carried to Statement A	\$ 20,670.76	\$ 782.71	\$ 19,888.05
Special Districts (carried to Statement J):			
Social Service Tax	44,783.65	1.21	44,782.44
Wild Lands Tax	307.28	3.19	304.09
Educational Tax	3,155.30	.....	3,155.30
	\$ 68,916.99	\$ 787.11	\$ 68,129.88

STATEMENT E.

STATEMENT OF RECEIPTS AND DISPOSITION OF LEVIED SCHOOL TAXES

From April 1, 1939 to March 31, 1940

Receipts:		
Gross receipts	.....	\$123,373.29
Refunds	.....	22.71
Net to Statement J	.....	\$123,350.58
Disposition:		
Repaid to Department of Municipal Affairs Trust Fund	.....	\$ 24,485.54
Repaid to Department of Municipal Affairs to apply on Implemented Loans	.....	91,258.72
Total repaid to Department of Municipal Affairs	.....	\$115,744.26
To Provincial Treasurer	.....	7,606.32
		\$123,350.58

STATEMENT F.

STATEMENT OF RECEIPTS AND DISPOSITION OF HOSPITAL TAXES

From April 1, 1939 to March 31, 1940

Receipts:		
Gross receipts	.....	\$ 20,611.84
Refunds	.....	.....
Net to Statement J	.....	\$ 20,611.84
Disposition:		
To Provincial Treasurer repayment on 1939 Loan for Requisitions	.....	\$ 2,078.20
Suspense—unapplied receipts carried forward	18,533.64
		\$ 20,611.84

ACCOUNTING DIVISION

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STATEMENT G.

STATEMENT OF RECEIPTS AND DISPOSITION OF COLLECTIONS ON AGRICULTURAL ADVANCES

From April 1, 1939 to March 31, 1940

Receipts:			
Gross receipts			\$ 46,380.68
Refunds			
Net to Statement J			\$ 46,380.68
Disposition:			
	Principal	Interest	
1937 Seed Grain	\$11,388.15	\$ 1,246.53	Repaid to banks
1938 Agricultural Advances	24,338.89	1,707.74	Repaid to banks
Total repaid to banks	\$35,727.04	\$ 2,954.27	
1936 Seed Grain	629.70	126.13	To Provincial Treasurer
1939 Agricultural Advances	3,775.98	143.84	To Provincial Treasurer
Audit Folio 1133	\$9,345.78		
Unexpended balance of \$25.000 loan	5,569.80		
Total Collections	\$3,775.98		
1937-38 Feed and Fodder	1,597.28	160.44	To Provincial Treasurer
1938-39 Feed and Fodder	1,212.13	53.87	To Provincial Treasurer
	\$42,942.13	\$ 3,438.55	
			\$ 42,942.13
			3,438.55
			\$ 46,380.68

STATEMENT H.

GOVERNMENT OF THE PROVINCE OF ALBERTA DEPARTMENT OF LANDS AND MINES SPECIAL AREAS TRUST ACCOUNT STATEMENT OF RECEIPTS AND PAYMENTS

For the Year ended March 31, 1940

Cash in bank, March 31, 1939		\$ 62,523.43
Receipts:		
Grazing rentals	\$ 35,316.31	
Cultivation rentals	20,751.49	
Sale of buildings	7,831.00	
Reimbursement of dam construction costs	4,202.98	
Bank interest	1,049.83	
Equipment rentals	311.90	
Miscellaneous	865.72	
		70,329.23
		\$132,852.66
Payments:		
Construction of dams	\$ 375.72	
Community pastures	5,394.37	
Road maintenance	3,121.86	
Purchase of equipment	9,057.08	
Fireguarding	296.01	
Equipment maintenance	1,022.83	
Miscellaneous	788.06	
		20,055.93
Cash in bank March 31, 1940		\$112,796.73

DEPARTMENT OF LANDS AND MINES

STATEMENT I.

GOVERNMENT OF THE PROVINCE OF ALBERTA
DEPARTMENT OF LANDS AND MINES
SPECIAL DISTRICTS TRUST ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
For the Year ended March 31, 1940

RECEIPTS	
Funds transferred from Improvement Districts' Trust Account	\$ 13,243.80
Special Districts Tax	82,237.51
Bank interest	21.63
Miscellaneous	1,827.99
	<u>\$ 97,330.93</u>
PAYMENTS	
Road maintenance	\$ 17,967.29
Direct relief	12,852.19
Old age pensions	9,441.48
Mothers' allowance	4,894.63
Pests and weeds	2,373.49
Buildings	1,283.40
Repayment of bank loan	1,118.75
Recoverable advances	877.02
Land Titles Office fees	444.00
Pensions for the Blind	82.08
Miscellaneous	87.20
	<u>51,421.53</u>
	<u>\$ 45,909.40</u>

STATEMENT J.

STATEMENT OF RECEIPTS
SPECIAL AREAS AND SPECIAL DISTRICTS
April 1, 1939 to March 31, 1940

	Gross Receipts	Refunds	Net
TAXES:			
Special District Tax, Statement I	\$ 82,362.72	\$ 125.21	\$ 82,237.51
Social Service Tax, Statement D	44,783.65	1.21	44,782.44
Wild Lands Tax, Statement D	307.28	3.19	304.09
Educational Tax, Statement D	3,155.30		3,155.30
Levied School Tax, Statement E	123,373.29	22.71	123,350.58
Hospital Tax, Statement F	20,611.84		20,611.84
Reporting School Tax	6,878.18		6,878.18
Refunded to school districts	\$6,532.23		
5% commission to Special Districts Trust Account	345.95		
Total Collections	<u>\$6,878.18</u>		
Hail Tax	2,558.87		2,558.87
Refunded to Hail Board	\$2,430.92		
5% commission to Special Districts Trust Account	127.95		
Total Collections	<u>\$2,558.87</u>		
TOTAL TAX COLLECTIONS	<u>\$284,031.13</u>	<u>\$ 152.32</u>	<u>\$283,878.81</u>
Funds Transferred from Improvement Districts Trust Account, Statement I	13,243.80		13,243.80
Special Districts Bank Interest, Statement I	21.63		21.63
Special Districts Miscellaneous, Statement I	1,354.09		1,354.09
Statement I	\$1,827.99		
Less: Reporting schools commissions	\$345.95		
Hail commissions	127.95		
	<u>473.90</u>		
	<u>\$1,354.09</u>		
Special Areas Trust Receipts, Statement H	70,446.65	117.42	70,329.23
Agricultural Advances, Statement G	46,380.68		46,380.68
Collections for Department of Agriculture:			
Horse vaccine	2,793.50		2,793.50
Bran and sawdust	66.32		66.32
	<u>\$418,337.80</u>	<u>\$ 269.74</u>	<u>\$418,068.06</u>

STATEMENT OF RECEIPTS BY BRANCHES

For Fiscal Years Ending March 31, 1939 and March 31, 1940

	Fiscal year ending March 31, 1939	Fiscal year ending March 31, 1940
INCOME ACCOUNT:		
Lands and Grazing Branch	\$ 159,415.63	\$ 148,286.74
Timber Branch	298,434.00	359,786.16
Mining Lands Branch	1,032,502.10	1,050,221.46
School Lands Branch	358,197.11	371,626.59
Miscellaneous	16,163.91	14,177.87
CAPITAL ACCOUNT:		
Land sales principal	8,593.93	8,702.54
TRANSFERRED TO OTHER DEPARTMENTS	4,766.75	19,888.05
SCHOOL LANDS TRUST FUND	86,322.26	83,664.73
SPECIAL AREAS AND SPECIAL DISTRICTS:		
Taxes		283,878.81
Funds transferred from Improvement Districts Trust Account		13,243.80
Special Districts Bank Interest		21.63
Special Districts Miscellaneous		1,354.09
Special Areas Trust Receipts	85,178.73	70,329.23
Agricultural Advances		46,380.68
Horse vaccine		2,793.50
Bran and sawdust		66.32
UNAPPLIED RECEIPTS CARRIED FORWARD:		
Suspense	38,520.74	61,007.15
Improvements	7,162.42	4,308.07
Land patents cultivation crop share	20.06	404.16
School lands cultivation crop share	77.48	13,494.10
Grazing permits, fees, rentals, etc.	4,388.11	3,853.04
	<u>\$2,099,743.23</u>	<u>\$2,557,488.72</u>

SCHOOL LANDS BRANCH

STATEMENT OF RECEIPTS

April 1, 1939 to March 31, 1940

	Receipts	Refunds	Net Revenue
INCOME ACCOUNT:			
Sales: interest	\$ 75,339.12	\$ 7.34	\$ 75,331.78
Grazing fees, rentals, etc.	15,842.85	402.71	15,440.14
Hay fees, dues, etc.	945.64	25.85	919.79
Improvements	425.32	395.32	30.00
Cultivation fees, rentals, etc.	90,691.57	4,535.88	86,155.69
Miscellaneous leases	290.79	23.00	267.79
Timber permits, fees, dues, etc.	28,304.76	142.59	28,162.17
Coal fees, rentals, etc.	4,900.47		4,900.47
Coal mining royalties	7,812.78		7,812.78
Petroleum and natural gas: fees, rentals, etc.	37,617.12	499.50	37,117.62
Petroleum and natural gas royalties	115,002.11		115,002.11
Miscellaneous	493.53	7.28	486.25
	<u>\$377,666.06</u>	<u>\$ 6,039.47</u>	<u>\$371,626.59</u>
TRUST ACCOUNT:			
School lands sales principal	86,373.73	2,709.00	83,664.73
	<u>\$464,039.79</u>	<u>\$ 8,748.47</u>	<u>\$455,291.32</u>

ALBERTA SCHOOL LANDS TRUST FUND

BALANCE SHEET—March 31, 1940

ASSETS			
Cash in bank and on hand	\$ 6,180.76		
Less amount due Provincial Treasurer	1,100.00		
		\$ 5,080.76	
Investments:			
Dominion of Canada debentures	\$10,165,259.18		
Accrued interest	17.81		
		10,165,276.99	
Accounts Receivable:			
Undue principal	\$ 1,080,654.66		
Arrears principal	733,127.21		
		1,813,781.87	
Due by Provincial Treasurer re adjustments		368.54	
			<u>\$11,984,508.16</u>
LIABILITIES			
Alberta School Lands Trust Fund	\$11,984,508.16		<u>\$11,984,508.16</u>

STATEMENT K.

STATEMENT L.

STATEMENT M.

DEPARTMENT OF LANDS AND MINES

STATEMENT N.

ALBERTA SCHOOL LANDS SALES
REVENUE ACCOUNT

April 1, 1939 to March 31, 1940

Arrears interest as at March 31, 1939	\$ 897,344.79	
Interest charges	195,534.28	
Interest on reinstated accounts	103,205.62	
Interest revenue		\$ 75,331.78
Interest on cancelled sales written off		50,577.37
Amounts transferred from cultivation leases held on reinstated sales		17,091.38
Interest reductions granted by School Lands Board		490,320.57
Arrears interest as at March 31, 1940		562,763.59
	<u>\$1,196,084.69</u>	<u>\$1,196,084.69</u>

STATEMENT O.

STATEMENT OF COLLECTIONS ON TAX RECOVERY LANDS

April 1, 1939 to March 31, 1940

Grazing permits	\$ 3,331.06
Grazing rentals	3,953.99
Improvements	20.00
Sales principal	1,269.64
Sales interest	17.90
Cultivation permits	8.30
Cultivation rentals	1,227.50
Cultivation crop shares	2,418.40
Mineral surface rentals	16.07
Miscellaneous leases	25.18
Miscellaneous use permits	3.50
Miscellaneous sale of improvements	110.00
Sundry revenue	9.75
	<u>\$ 12,411.29</u>
Office fees	485.00
	<u>\$ 12,896.29</u>

Special Areas Administration

REPORT OF THE SPECIAL AREAS BOARD, A. C. McCULLY, CHAIRMAN

The Special Areas Act of 1939 was assented to on March 31st, 1939, and provides for the constitution of each of the following Special Areas:

1. The Tilley East Special Area.
2. The Berry Creek-Sullivan Lake Special Area.
3. The Sounding Creek-Neutral Hills Special Area.
4. The Bow West Special Area.

The Act further provides that the Lieutenant-Governor in Council shall have power to appoint a Board of not more than three members who shall perform such duties and exercise such powers pertaining to a Special Area or Special Areas which are imposed or conferred upon the Minister by this Act, as may from time to time be assigned by the Minister to such Board.

From March 31st, 1939 to July 15th, 1939, administration was carried on by the former Special Areas Board under the Chairmanship of Mr. John Harvie, Deputy Minister of Lands and Mines.

Pursuant to the provisions of section 4, subsection B of the said Act, Order in Council No. 927-39 was signed under date of July 15, 1939, appointing a Board during pleasure.

The following is the personnel of said Board:—

A. C. McCully, Chairman,
G. R. Armstrong,
D. M. Graham, Secretary.

In addition to a Head Office in Edmonton a sub-office is maintained in each area constituted.

Previous to the passing of this Act, the responsibility of administration was divided between several departments. The 1939 Act places the entire administration under the jurisdiction of the Department of Lands and Mines.

This change necessitated a great deal of reorganization work, which, together with the formation of fundamental policies, occupied the Board's time for the greater part of this fiscal year.

Owing to extreme drought conditions for a number of years previous to 1938, a great many residents found themselves unable to keep taxes and seed grain advances paid up, and their outlook appeared rather hopeless. In order to relieve the situation and, as it were, give these people renewed interest and hope the Government decided to cancel a portion of their outstanding taxes and Agricultural Relief. As a result, Order in Council No. 727-39 was signed on June 10th, 1939, which was in effect:—

"That all arrears of taxes and agricultural relief advances up to and including the 31st day of December, 1935, owing by *bona fide* farmers residing in any Special District as at the 31st of March, 1939, are hereby cancelled."

This cancellation resulted in the writing off of a considerable amount of arrears of taxes, and Agricultural Relief Advances.

Regulations were set up with respect to the issuing of grazing and cultivation permits and leases. Amounts received from these are shown in the statement of receipts. No long term leases were issued as it was decided to withhold same

until title to all abandoned lands had been taken and present allotments readjusted.

A policy of exchange of private holdings for Crown lands was introduced and application forms were prepared and distributed to those wishing to make exchanges of this nature.

During the year a power grader was purchased for the sum of \$7,350.00. This machine worked 930 hours and completed 45 miles of rebuilding, 160 miles of heavy maintaining, moved several buildings, dug ditches, excavated culverts, and made back fills.

A D4 Caterpillar, purchased in 1938, pulling a blade grader, worked 1,114 hours and completed 165 miles of maintaining and 32 miles of fire guarding.

In Special District No. 4, 12 miles of elevated grade, 7 miles blade grader reconstruction and 36 miles of heavy maintenance were completed by contract work.

Statements of receipts and payments are kept under two headings, namely Special Districts Trust Account and Special Areas Trust Account.

Special District Trust represents collections and disbursements of moneys collected from privately owned lands. The Special Areas Trust represents collections and payments with respect to Crown lands.

SPECIAL AREAS TRUST ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
For the Year ended March 31, 1940

Cash in bank, March 31, 1939		\$ 62,523.43
Receipts:		
Grazing rentals	\$ 35,316.31	
Cultivation rentals	20,751.49	
Sale of buildings	7,831.00	
Reimbursement of dam construction costs	4,202.98	
Bank interest	1,049.83	
Equipment rentals	311.90	
Miscellaneous	865.72	
		<u>70,329.23</u>
		\$132,852.66
Payments:		
Construction of dams	\$ 375.72	
Community pastures	5,394.37	
Road maintenance	3,121.86	
Purchase of equipment	9,057.08	
Fireguarding	296.01	
Equipment maintenance	1,002.83	
Miscellaneous	788.06	
		<u>20,055.93</u>
Cash in bank March 31, 1940		<u>\$112,796.73</u>

SPECIAL DISTRICTS TRUST ACCOUNT
STATEMENT OF RECEIPTS AND PAYMENTS
For the year ended March 31, 1940

Receipts:		
Funds transferred from Improvement Districts' Trust Account	\$ 13,243.80	
Special Districts Tax	82,237.51	
Bank interest	21.63	
Miscellaneous	1,827.99	
		<u>\$ 97,330.93</u>
Payments:		
Road maintenance	\$ 17,967.29	
Direct relief	12,852.19	
Old age pensions	9,441.48	
Mothers' allowance	4,894.63	
Pests and weeds	2,373.49	
Buildings	1,283.40	
Repayment of bank loan	1,118.75	
Recoverable advances	877.02	
Land Titles Office fees	444.00	
Pensions for the blind	82.08	
Miscellaneous	87.20	
		<u>51,421.53</u>
Cash in bank, March, 31. 1940		<u>\$ 45,909.40</u>

The amounts of \$17,967.29 and \$3,121.86 set out in the statements as road maintenance represent payments in cash. In addition to the above there was road work completed and applied on taxes in the amount of \$33,783.32 and on relief \$12,298.64. A total of \$67,171.11 was spent on road work.

It is generally accepted that the rainfall during the growing season is seldom sufficient to produce a full crop and the productivity of the country is essentially dependent on water stored in the soil and sub-soil within the reach of draught by the growing plants. One of the best retarding agents to hold up the run-off and permit infiltration of water to the storage strata is a covering of grass. Having this in mind and coupled with the policy of encouraging more stock raising, the Board is endeavouring to have as much of the abandoned farm lands re-grassed as possible.

The P.F.R.A. supplied the Board with approximately 50,000 lbs. of crested wheat grass seed. In addition to this some 8,074 lbs. were harvested on the Department of Agriculture farms at Youngstown, Naco, and Cessford. This seed was all distributed among the farmers for seeding. About 75 per cent was seeded on Crown lands, the balance being supplied for seeding on privately owned lands to be repaid at the rate of 1½ lbs. for each lb. supplied.

The P.F.R.A. engineers were taken out of the Special Areas to work on the Ronalane Irrigation Scheme. As much water as possible for conservation development was not therefore secured, although even during their absence, construction was carried on and a fair season's work completed, consisting of the construction and repairing of six community stock-watering dams and one dugout. A number of private dams and dugouts was also constructed.

Ducks Unlimited constructed one dam south of Hanna, which provides badly needed stock watering within a community pasture and also a flood irrigation scheme for 1,200 acres of hay meadow. This organization is also interested in future development of four or five other projects within the Areas.

Work was begun on the development of six community pastures and head tax districts, projects which will make available to residents some 256,000 acres of pasture lands. A limited amount of use was made of these pastures, but same will not be completed until 1940.

A total of 7,200 acres were fenced and set aside as hay meadows.

DEPARTMENT OF LANDS AND MINES

FINANCIAL STATEMENTS OF SPECIAL DISTRICTS

For the information of the residents and taxpayers in the Special Districts, otherwise designated "Special Areas," the following financial statement is issued:—

STATEMENT FOR THE FISCAL YEAR 1939-1940
(Ending 31st March, 1940)

CHARGES:	
*Social Service Taxes	\$ 44,782.44
*Wild Land Taxes	304.09
*Educational Taxes	3,155.30
Schools	208,688.40
Hospitals	23,397.97
1939 Agricultural Advances	19,964.37
Administration Costs	74,741.41
Old Age Pensions	9,499.16
Blind Pensions	82.08
Mothers' Allowance	6,639.38
Child Welfare	361.47
Direct Relief	18,132.15
Medical Relief	27,735.35
Interest on Implemented Loans	8,523.60
Interest on Direct Loans	3,817.60
Medical and Hospital Bills	758.72
Unpaid Hospital Requisitions, Interest	1,552.18
Interest on Agricultural Advances	41,946.47
Charitable and Hospital Bills	10,781.76
Road Maintenance	21,089.15
Pests and Weeds	2,373.49
Buildings	1,283.40
Land Titles Office Fees	444.00
Miscellaneous Costs	875.26
Construction of Dams	375.72
Purchase of Equipment	9,057.08
Maintenance of Equipment	1,022.83
Total Charges	\$541,384.83
COLLECTIONS:	
Special Districts Taxes	\$ 82,237.51
Social Service Taxes	44,782.44
Wild Land Taxes	304.09
Educational Taxes	3,155.30
Levied School Taxes	123,350.58
Hospital Taxes	20,611.84
1939 Agricultural Advances	3,919.82
Miscellaneous	1,375.72
Total Collections	279,737.30
Deficit	\$261,647.53

*NOTE.—These items represent the actual amounts collected and not the amount assessed. The department acts as the collection agency for these taxes and the district is in no way responsible for any uncollected arrears.

LIABILITIES

LIABILITIES OF THE SPECIAL DISTRICTS

As at the 31st March, 1940

Outstanding Cheques	\$ 96.74
General	319.95
SOCIAL SERVICES:	
Provincial Mental Hospital	2,251.28
Provincial Training School	5,784.16
Central Alberta Sanatorium	4,519.00
*Old Age Pensions	38,203.30
*Blind Pensions	51.46
*Mothers' Allowance	40,359.15
Child Welfare	3,514.13
*Direct Relief	300,822.43
Implemented Loans by Provincial Treasurer	104,163.64
Direct Loans by Provincial Treasurer	79,662.24
Amounts Owning for Medical and Hospital Accounts	82,521.79
Medical Relief	75,000.12
Old Hospital Requisitions	38,731.01
Owing to Hail Board	17,735.47
Department of Agriculture	28.15
Department of Municipal Affairs	3.29
Department of Municipal Affairs Owning in former Municipal District No. 242	1,933.39

SPECIAL AREAS ADMINISTRATION

99

1937 Seed Grain Owing to Banks	243,846.57
1938 Agricultural Advances Owing to Banks	509,103.66
1936 Seed Grain Owing to Provincial Treasurer	89,259.40
1937-38 Feed and Fodder Owing to Provincial Treasurer	82,155.30
1938-39 Feed and Fodder Owing to Provincial Treasurer	44,130.49
1939 Agricultural Advances Owing to Provincial Treasurer	16,044.55
1939 School Requisitions Owing to Provincial Treasurer	94,582.08
1939 Hospital Requisitions Owing to Provincial Treasurer	19,767.59
School Debentures Outstanding	82,010.53
School Debts Outstanding	27,672.75
Medical Relief	27,735.35
Administration Costs	74,741.41
Charitable and Hospital Bills	10,781.76
	<u>\$2,117,532.14</u>

*The amount shown as liabilities represents in the case of—

Old Age Pensions	Only 10% of the actual advance
Blind Pensions	Only 10% of the actual advance
Mothers' Allowance	Only 25% of the actual advance
Direct Relief	Only 20% of the actual advance

ASSETS

The following information is furnished to show the assets available to meet the current charges and arrears of liabilities.

ASSESSMENTS

Area (in acres)	3,107,034.5
Values:	
Land	\$12,508,451.00
Minerals	69,500.00
Improvements	1,121,024.00
TOTAL	<u>\$13,698,975.00</u>

MILL RATES FOR THE YEAR 1940

Special District	10
Levied School	12
Hospital	5
Education	3
Social Services	3

Social Services are charged only on land assessment

TAXES AND ADVANCES UNPAID AS AT MARCH 31st, 1940

General	\$1,535,389.10
Agricultural Advances	984,539.97
Social Services	251,738.12
Reporting Schools	151,886.95
Hail	188,063.66

The Department acts as the collection agency of the taxes for Social Services, Reporting Schools and Hail.

A systematic check-up is being made by the Department of delinquent rate-payers and as permitted by law title to the lands where taxes are in default will be taken without delay.

Wherever title to land is taken under The Tax Recovery Act, the assets consisting of unpaid taxes will be correspondingly reduced. Collection of agricultural advances will not be possible in many cases because the person the advance is no longer residing in the district.

J. HARVI

HD 319 A4 A329 3RD-10TH 1932-1940
ALBERTA DEPT OF LANDS AND
MINES

ANNUAL REPORT OF THE
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NOV 22 RETURN	APR 03 RETURN	
MAR 15 1978	REC'D OCT 10 1991	
MAR 14 RETURN	MAR 14 1991	
DUE CAN MAR 20 '80	DUE CAN	
	JAN 03 RETURN	
DUE CAN JAN 31 '83	DUE CAN FEB 14 1992	
FEB 02 RETURN	DUE CAN	09 1992
DUE CAN	APR 03 1992	
MAR 24 RETURN	JUN 3 1992	
DUE CAN	APR 11 1992	
APR 01 RETURN	OCT 12 1994	
DUE CAN	OCT 13 RETURN	
APR 03 RETURN		
DUE CAN		
APR 03 RETURN		
DUE CAN	APR 09 '87	
MAR 27 RETURN		

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